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Researches
INTO
SENSORY DISTURBANCES FROM CEREBRAL LESIONS.[1]

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INTRODUCTORY REMARKS.

WE must begin by craving the indulgence of our readers for the form in which the following paper is cast. The nature of the sensory changes produced by lesions of the cerebral cortex and other parts of the brain has been the theme of innumerable works by the acutest intellects in medicine of the last 50 years. Our research would have been impossible but for their labours, and yet we can never acknowledge what we owe to them. Many whose views have helped to make our work fruitful are known to us through their publications, and to them we can repay our debt by referring at suitable points to the similarity of our results to those of our predecessors. Others have been our teachers and the masters for whom we have gladly worked. To them our debt can never be repaid, for much of the identity in outlook comes from personal intercourse and cannot be fixed by citation. First amongst this group must always stand the name of Dr. Hughlings Jackson.

Scope of Communication.

This paper is a preliminary communication in which we put forward a general view of the mode of action on the afferent side of the nervous system. Any such generalisation must not only contain much that is common to the views of others, but also many things incompatible with the conceptions even of those with whom we are otherwise in harmony. Where possible we shall always acknowledge our concurrence with those who have preceded us, but in the small space at our disposal we cannot enter into criticism of work with which we are not in agreement. In many cases, although our theoretical conclusions may coincide with those put forward by other workers, our experimental results may differ fundamentally. In the same way similar clinical observations may lead us to other conclusions, but it will be impossible to stop our exposition in order to discuss these differences.

We shall attempt to put forward in this paper a general conception of the mechanism underlying sensation based upon a study of human beings in whom disease, accident, or surgical interference has produced some stationary lesion. Many of these patients have occupied our attention from time to time for many years, and it will be impossible in this preliminary communication to give a complete history of all our cases.

Methods of Investigation.

We lay great stress upon the methods we have used for testing sensibility in this research. As these, however, have only limited interest we shall publish them elsewhere. As far as possible we shall avoid the use of all general terms. We wish to lay peculiar stress on the confusion which arises from the use of all such expressions as "deep sensibility" when reporting the results of a clinical examination. Not infrequently "deep sensibility" is said to be affected from a lesion of the cortex when the observer means to state that the appreciation of posture, of passive movement, or of vibration, was defective. Similarly, "atopognosis" is a combined loss of the faculties of recognising posture and the situation of the spot stimulated, two functions capable of independent investigation. In every case, therefore, we shall describe our observations under headings which imply the simple test used in analysing the loss of sensation.

We shall begin by tracing sensory impulses from the point where they enter the spinal cord and follow them to those centres where they form the basis of that psychical process we call sensation. For this investigation exact knowledge of the site of the lesion is less important than a precise determination of the nature of the sensory changes in selected cases. It is only by the study of the nature and grouping of these affections of sensation that we can obtain any knowledge of the nature of cerebral activity and of the form in which impulses reach the higher centres to underlie the psychical elaboration of sensation.

Nature of Lesions.

It is our pleasant duty to express our sincere thanks to all those who have helped us in this work. To the staff of the National Hospital, Queen-square, we owe innumerable opportunities of observing many valuable cases, and Dr. Head wishes to thank them for their generous hospitality. To Sir Victor Horsley we are particularly grateful for permission to use our observations on his remarkable case of excision of a portion of the cerebral cortex.

In consequence of such help we have been able to investigate a large number of selected cases. This includes patients in whom the clinical symptoms justified us in assuming certain affections of the optic thalamus. A second group consists of patients with limited lesions of the surface of the brain, most of which resulted from successful removal of a cerebral tumour or other cortical disease. In this group the site of the lesion is known with more or less accuracy, and we have included solely stationary cases examined months or years after operation. Finally, we have employed the same methods to investigate many instances of lesions in the neighbourhood of the internal capsule and deeper parts of the brain.

I.—THE GROUPING OF AFFERENT IMPULSES IN THE SPINAL CORD AND BRAIN-STEM.

1. THE SPINAL CORD.

It is a matter of universal belief that man has been evolved from the lower animals; and yet when we deal with sensation and sensory processes we speak as if he were created with peripheral end-organs, each capable of reacting to one of the sensory qualities of human experience. The impulses starting in these end-organs are supposed to pass unaltered to the brain, there to set up that peculiar and unknown change which evolves a specific sensation. Spots were found on the skin sensitive to touch, to pain, to heat or to cold only. With the discovery of these highly developed end-organs the doctrine of specific nerve energy seemed to be proved in the strictest manner.

All other forms of sensory appreciation were supposed to be produced by the physical transformation of these primary sensory elements, in association with an ill-defined faculty called the "muscle-sense." Recognition of the locality of a stimulus and the posture of the limb under examination were attributed to judgment and association.

But alongside the systematic investigation by von Frey and others of the capabilities of these specific areas in the skin, the clinicians were discovering the importance of "muscular sensibility." Sherrington's demonstration of afferent fibres in muscles and tendons placed the existence of the "muscle-sense" beyond a doubt. The use he made of these afferent impulses from deep structures in his theory of the proprioceptive system necessitated a complete exploration of the nature of deep sensibility.

By their experiment directed to this end, Rivers and Head [31*] showed that beneath the skin, independent of all "touch" and "pain spots," lies an afferent system capable of a wide range of functions. Pressure that in ordinary life would be called a touch can be appreciated and localised with considerable accuracy. Increase of pressure, especially on bones and tendons, will cause pain. Moreover, it is from the impulses of this deep afferent system that we gain our knowledge of the posture of the limbs and the power of recognising passive movements.

Complexity of Peripheral Mechanism of Sensation.

Evidently, therefore, the peripheral mechanism of sensation is less simple than was at first supposed. For there are two sets of end-organs that can respond to tactile stimuli and

[1] The substance of this paper formed the Croonian lectures delivered before the Royal College of Physicians of London on June 13th, 15th, 20th, and 27th, 1911. The results will be published in more detail in the forthcoming number of *Brain*.

* These and other reference numbers relate to a bibliography to appear at the end.

two independent mechanisms for the initiation of pain. Further analysis showed that the peripheral apparatus in the skin, by which we become conscious of the nature of external stimuli, is highly complex. No one sensory quality is subserved by a single set of end-organs, but every specific sensation is the result of the combined action of more than one group. This is exactly the result that might have been expected when we bear in mind that the structure of man is the product of a long evolution.

Grouping of Different Impulses in Spinal Cord.

But it is equally obvious, from an evolutionary standpoint, that these diverse impulses could not pass uncombined to the highest physiological level. Within the spinal cord the opportunist grouping of the periphery gives place to an arrangement according to quality (Head and Thompson [11]). All impulses capable of generating pain become grouped together in the same path and can be disturbed simultaneously by an appropriate lesion of the spinal cord. In the same way sensibility to heat or to cold may be lost independently of one another, showing that all the impulses upon which they are based have been sorted out into two functional groups, each of which passes by a separate system in the spinal cord.

The most remarkable condition revealed by an intramedullary lesion is the complete separation of the impulses underlying the appreciation of posture, the discrimination of two points and their correlated faculties from those of other sensory groups. All tactile, painful, and thermal impulses coming from the periphery undergo regrouping after entering the spinal cord, and whether they arise in the skin or in deeper structures become arranged according to functional similarity. Then, after a longer or shorter course, they pass away to the opposite side of the spinal cord.

Impulses concerned with Postural and Spacial Recognition.

This process of filtration leaves all the impulses concerned with postural and spacial recognition to continue their course unaltered in the posterior columns; they are the survivors of peripheral groups dissociated by the passing away of certain components into secondary afferent systems. At any point in the spinal cord these columns transmit not only impulses from the periphery which are on their way, after a longer or shorter passage, to regrouping and transformation, but at the same time they form the path for impulses, arising both in the cutaneous and deep afferent systems, which undergo no regrouping until they reach the nuclei of the medulla oblongata.

Thus a lesion confined to one half of the spinal cord, even at its highest segment, may interfere with the passage of sensory impulses, some of which are travelling in secondary paths, whilst others are still within the primary level of the nervous system. All impulses concerned with painful and thermal sensations from distant parts, disturbed by such a lesion, will be travelling in secondary paths, and will have come from the opposite half of the body, for after regrouping they have passed across the spinal cord. But those impulses underlying the appreciation of posture, the compass-test, size, shape, form, weight, consistence, and vibration will be affected on the same half of the body as the lesion. They still remain in paths of the peripheral level and have undergone no regrouping.

In such a case the parts on the side opposed to the lesion may be insensitive to pain, heat, and cold; but all the postural and spacial aspects of sensation will be perfectly maintained. Yet all power of recognising position, of estimating size, shape, form, and weight, or of discriminating the two compass points will be lost in the limbs which lie on the side of the lesion, although tactile sensibility and localisation of the spot stimulated may be perfectly preserved.

This remarkable arrangement enables us to analyse the nature of the peripheral impulses upon which depends our power of postural and spacial recognition. Obviously, even at the periphery, they must be independent of touch and pressure. The power to distinguish two points applied simultaneously and to recognise size and shape requires as a preliminary the existence of sensations of touch. But the patient may be deprived of all such powers of spacial recognition without any discoverable loss of tactile sensibility. In the same way our power to appreciate the position of a limb, or to estimate the weight of an object, is based upon impulses which, even at the periphery, exist apart from those of touch and pressure called into simultaneous being by the same external stimulus.

This long delay of the postural and spacial elements in reaching secondary paths enables them to give off afferent impulses into the spinal and cerebellar coördinating mechanisms which lie in the same half of the spinal cord. The impulses which pass away in this direction are never destined to enter consciousness directly. They influence coördination, unconscious posture and muscular tone, and although arising from the same afferent end-organs they never become the basis of a sensation.

Finally, the last survivors of these impulses from the periphery become regrouped in the nuclei of the posterior columns and cross to the opposite half of the medulla oblongata in paths of the secondary level. So they pass to the optic thalamus and thence to the cortex to underlie those sensations upon which are based the recognition of posture and spacial discrimination.

Illustrative Case.

The following case is an example of the effects produced by a lesion situated in one-half of the spinal cord just below the point at which the postural and spacial impulses become regrouped in the nuclei of the posterior columns.

CASE 1. *Brown-Séquard paralysis.—On the right*—Weakness of arm and leg. Reflexes exaggerated; ankle clonus and extensor plantar reflex. Loss of painful sensibility over right cheek: touch, heat, and cold unaffected. *On the body and limbs*—Tactile, painful and thermal sensibility were perfect; but in the arm and leg posture, passive movements, and vibration of a tuning-fork could not be appreciated within normal limits, the compass test was defective, and he could not recognise size, shape, form, weight, or consistence of objects by the right hand. Localisation was not affected. *On the left*—Motion perfect. Reflexes normal. Loss of sensation to pain, heat, and cold. All other forms of sensibility, including localisation, perfectly preserved.

This case is an excellent illustration of the principles laid down in this section, and the retention of muscular power in the right hand enabled us to test the faculty of recognising size, shape, form, weight and consistence with an accuracy otherwise impossible.

Three Main Divisions of Afferent Impulses.

In conclusion we believe that at the extreme upper end of the spinal cord, just below the formation of the posterior column nuclei, afferent impulses pass upwards in three main divisions:—

1. The impulses underlying sensations of pain, of heat, and of cold are travelling in secondary paths in the opposite half of the spinal cord from that by which they entered.

2. Those impulses upon which depend postural recognition and spacial discrimination still remain uncrossed in the posterior column. They consist of one group arising in the deep afferent system, upon which depends our recognition of posture, passive movement, weight, consistence, and vibration. A second group arises in the end-organs of the skin, and these impulses underlie the discrimination of two points applied simultaneously, and the allied appreciation of size, shape, and form.

3. Contact sensibility evoked by touch and by pressure may remain entirely undisturbed. Apparently it depends upon impulses which run in a bilateral path, and it is therefore unaffected by a purely unilateral lesion (Rothmann [32], Petrén [26], Head and Thompson [11]). This tactile group formed by the union of tactile impulses within the cord carries with it the impulses which underlie the power of recognising with accuracy the situation of the stimulated spot, and localisation therefore remains unaffected.

2. THE BRAIN-STEM.

The larger number of afferent impulses traverse the spinal cord, grouped, according to their sensory qualities, in paths that can be isolated by disease. This enables us to analyse the nature of the groups formed, either by specific selection at the first synaptic junction, or by gradual filtration away into secondary tracts, of impulses arising originally in the same peripheral system. But in their further passage through the brain-stem to the optic thalamus the impulses run in paths which are anatomically more closely associated. This makes any analysis of the grouping of afferent impulses in this region unusually difficult.

Pain, Heat, and Cold Impulses.

Impulses underlying sensations of pain, heat, and cold alone seem to run unaltered between the upper end of the spinal cord and the optic thalamus.[2] They receive the accession of the regrouped secondary impulses from the face, which cross to join the specific path for pain, for heat, or for cold. These paths are so situated that they can be interrupted without disturbance of any other form of sensation on the body, and the analgesia and thermo-anæsthesia so produced resemble in quality the loss to pain, heat, and cold caused by a lesion of the spinal cord.

Thus when a lesion of the bulb interferes with sensations of pain, not only may the skin be insensitive to prick but the readings of the pressure algometer may be raised on the analgesic side. In the same way the affected area on the body may be insensitive to all degrees of heat and to all stimuli capable of evoking normally a sensation of cold. It is, however, important to remember that although the uncomfortable sensation produced by excessive pressure is greatly diminished, a lesion in this situation does not usually abolish completely all painful pressure (Cases 2 and 3). Thus it would seem that the grosser forms of pain and discomfort may possibly find their way by another path if the usual one is closed; whereas an equivalent lesion in the spinal cord blocks all painful impulses whatever their origin.

Not only can these three forms of sensibility be affected together, but any one of them may escape or be affected alone. The following case shows that, with a one-sided lesion of the bulb, the opposite half of the body may become analgesic, and yet the threshold values of sensibility to heat and cold may be equal on the two sides.

CASE 2.—October, 1906, sudden onset of pain in the right lower jaw. Since June, 1907, he has noticed loss of sensation on the left half of the body and right half of the face. First seen by us June, 1909, and since then his condition has not changed materially. Motor power and reflexes unaffected. Diplopia in all directions. Pupils unaffected. Optic neuritis in both eyes. Hearing diminished in right ear.

Sensation on the face.—Loss to prick with no loss to pressure-pain on the right side of the face, head, and neck. No other change in sensation to measured stimuli, but touch seemed "less vivid," heat "hotter," and cold "less cold," over the right than the left half of the face.

Sensation on the body.—The left half, except the perineum and scrotum, was insensible to prick. Pressure-pain was also diminished. Otherwise sensation was unaffected.

This case showed (1) a local lesion affecting the sensation of the right half of the face and neck; (2) a remote disturbance of sensibility to pain over the left half of the body with considerable raising of the algometer readings over the analgesic area; (3) heat and cold showed the same threshold on the two halves of the body.

All recent work has shown that the paths for the transmission of the impulses for pain, heat, and cold run up in the neighbourhood of the nucleus of the trigeminal nerve. This close local association is particularly well shown by cases of occlusion of the posterior inferior cerebellar artery (Wallenberg [38], Bruer and Marburg [2], Spiller [37]).

Separation of Spacial Discrimination and Postural Recognition Impulses.

In addition to these well-known facts the following instance of this condition also shows that impulses underlying the appreciation of posture and passive movement have become separated from those concerned with spacial discrimination. The compass-test gave identical results on the two halves of the body, and size, shape, and form could be appreciated on both hands. And yet the amount of passive movement necessary to evoke a sensation was three to four times greater in the affected fingers. Evidently a change in grouping has taken place at the posterior column nuclei and the impulses for spacial discrimination now tend to run apart from those of postural recognition.

CASE 3.—An instance of "occlusion of the posterior inferior cerebellar artery." Sudden onset Dec. 25th, 1908. Seen by us first in July, 1909. Horizontal and rotatory nystagmus, but diplopia had passed off. Left pupil did not dilate fully to shade. Left palpebral fissure smaller than right. Movement of left half of the palate defective, but vocal cords and tongue moved well. Gait unsteady; he tended to deviate to the left but fell to the right when his eyes were closed. No paralysis. Reflexes normal.

Sensations on the face.—Left half insensitive to prick, but sensitive to pressure-pain. Tactile and thermal thresholds were equal and normal on the two halves of the face, but all temperatures seemed "duller" on the left half.

Sensation on the body.—Loss to prick, to heat, and to cold over the right half of the body, right arm, and right leg. Sensibility to pressure-pain diminished over this area but not lost.

Diminished power of recognising posture and pressure movement in right arm and right leg. All other forms of sensation normal.

This typical case of "occlusion of the posterior inferior cerebellar artery" showed:—

1. A sensory disturbance over the left half of the face representing the local lesion.
2. Analgesia, with raising of the algometer readings, and complete loss of sensation to heat and to cold over the right half of the body.
3. Diminished recognition of posture and passive movement in the right arm and leg, but all spacial discrimination was perfect (compass-test, appreciation of size, shape, form).
4. Slight cerebellar incoördination in the left arm and leg, which was not increased by closing the eyes.

Gathering Together of Sensory Paths.

When all afferent impulses from the face have undergone re-grouping and passed, in secondary tracts, to the opposite half of the nervous system, the various sensory paths are gathered closely together in preparation for their ending in the optic thalamus. Every sensory path now lies within the opposite half to that by which its impulses entered the central nervous system. The complete integrity of sensations on the same side as the lesion shows that no bilateral paths are open to any form of sensory impulse.

From the analytical aspect these brain-stem lesions can give little information as to the grouping of the elements underlying sensation. But occasionally by watching the gradual disappearance of one form after another a hint may be gained with regard to the independence or association of any two groups of impulses.

Moreover, the tendency we have already noticed for the grosser forms of pain or discomfort to find a way to consciousness, although the more specific forms of pain, heat, or cold are blocked, becomes more evident the closer the lesion lies to the optic thalamus. And yet it is probable that this discomfort is not conducted by a bilateral path.

The following case, which we owe to the kindness of the late Dr. Beevor, illustrates the concentration of paths just before their entry into the optic thalamus. Incidentally it seems to show that the power of localising the spot touched may be greatly affected at this level with but little loss of tactile sensibility.

CASE 4.—Tumour of the right side of the mid-brain and optic thalamus verified by post-mortem examination. Five months before death the following signs were present. Loss of power in the left arm and leg, with profound ataxy. Extensor response from left sole with normal response from right. Athetoid movements of left hand, together with a fine tremor when the left arm was extended. Eye movements greatly restricted; nystagmus in all directions; fixed pupils.

The loss of sensation was confined to the left of the middle line. Sensations of prick diminished over left arm and leg, but lost on the left palm only. Tactile sensibility very little, if at all, affected during the time he was under observation by us. Localisation lost over left upper extremity. Compass-test gravely affected over left arm and leg. Appreciation of size and weight abolished in left hand.

This is a case where a malignant growth affected the corpora quadrigemina and that portion of the mid-brain at a point where the paths for sensory impulses are converging to an end in the thalamus. The clinical signs indicate that this lesion started in the mid-brain, although at the time of death the right optic thalamus was also destroyed.

During the course of the disease this case showed that:—In this situation the impulses underlying postural

[2] This does not necessarily mean that the impulses are carried by uninterrupted fibres. It has been suggested by Long [18], Cajal [4], Kohnstamm [15] that the nuclei of the formatio reticularis are intercalated in the course of the afferent conduction tracts. Such anatomical relay would not interfere with the above physiological conclusions, as it does not necessarily imply any regrouping of sensory impulses

recognition, spacial discrimination, and localisation (spot-finding) may be dissociated from those concerned with touch and pain. At one stage of his illness the patient was therefore able to appreciate contact with von Frey's hairs and cotton-wool, but could not localise the spot touched. Nor could he tell the head from the point of a pin, or the relative size and weight of objects placed in his hand.

Brain-stem: Summary.

To sum up the conclusions of this section, we can say that the brain-stem between the nuclei of the posterior columns and the final termination of all sensory paths in the optic thalamus is the seat of the following changes:—

1. The impulses for pain, heat, and cold continue to run up in separate secondary paths on the opposite side of the nervous system to that by which they entered. They receive accessions from the regrouped afferent nerves of the head and upper part of the neck. Although these paths are frequently affected together they are independent of one another, and any one of the three qualities of sensation may be dissociated by disease.

2. Lesions of the spinal cord tend to diminish simultaneously all forms of painful sensibility, but with disease of the brain-stem the gross forms of pain and discomfort may pass to consciousness, although the skin is analgesic. This applies not only to painful pressure but to the discomfort produced by excessive heat.

3. The impulses concerned with postural recognition part company with those for spacial discrimination at the posterior column nuclei. Up to this point they have travelled together in the same column of the spinal cord, but as soon as they reach their first synaptic junction they separate. Above the point where they enter secondary paths the power of recognising position and passive movement can be affected independently of the discrimination of two points and the appreciation of size, shape, and form.

4. It would seem as if those elements which underlie the power of localising the spot touched or pricked become separated off from their associated tactile impulses before they have actually come to an end in the optic thalamus. The long connexion of localisation with the integrity of tactile sensibility is here broken for the first time.

All these changes are preparatory to the great re-grouping which takes place in the optic thalamus, and will form the subject of the following section.

(To be continued.)

An Address
ON
INDICATIONS FOR SURGICAL INTERFERENCE IN THE TREATMENT OF TUBERCULOUS JOINT DISEASE IN CHILDREN,
WITH REMARKS AS TO THE AFTER-RESULTS.

Delivered in Opening a Discussion in the Section for Diseases of Children, Royal Society of Medicine, on Dec. 15th, 1911,

BY A. H. TUBBY, M.S. LOND., F.R.C.S. ENG.,
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MR. PRESIDENT AND GENTLEMEN,—The terms of the reference are sufficiently vague to allow me to speak of the surgical treatment of tuberculous joint disease in children somewhat widely, but the time allotted compels me to be brief.

INTRODUCTORY REMARKS.

The discussion to-day has special reference to the indications for surgical interference, and the nature of the operation done. I have been asked to include in my remarks some notes on the treatment of abscesses; and, finally, the after-results will be touched upon. It has been agreed that the various forms of tuberculous spinal disease and its complications render the ground too wide to be traversed, and therefore they are excluded.

You will observe that, as befits this section of the Royal Society of Medicine, we are dealing with the disease in children. It appears to me, however, expedient to extend that age in this case to the end of the fifteenth year, as it may be said to mark the end of the very active period of growth in bone; and, certainly up to this time that structure retains the characteristics of early life and its reaction to tuberculous infection. It is to be hoped that speakers will not limit themselves to hospital and the poorer class of patients, but that they will also deal with well-to-do patients, although it is generally recognised that for the latter class operative interference is less frequently required. Time will not permit me to allude to the treatment of deformities arising from tuberculous arthritis, except in so far as they may necessitate operation.

In order to make the views quite clear which I entertain with regard to tuberculosis in childhood, I may state that in a general sense I am in entire agreement with the opinion of Augustus Wilson,[1] who has stated "that tuberculosis of joints can be considered as such only in its incipiency, and that all conditions following this are to be looked upon as avoidable sequelæ." This axiom involves the postulates that early recognition of the affection and proper treatment, followed by careful and long-continued observation, are essential to the thorough and radical cure of the disease without deformity and with the minimum loss of function.

Looking back upon my opportunities for clinical experience from 1882 onwards—experience which has been gained in the wards of two general hospitals, at the Evelina Hospital for Children, at the Royal National Orthopædic Hospital, and at the Hospital for Hip Disease, Sevenoaks—I am conscious that the conception of tuberculous arthritis has been undergoing during the last decade a radical change. Briefly put, we may say that, whereas formerly the affection was regarded simply as a joint-disease to be treated as such, we now look upon it as a loss of resistance to the invasion of tuberculosis into a patient, manifesting itself an an inflammation and degeneration of one or more joints; or, to put it more baldly, the earlier idea was—the joint first and the general condition afterwards, whilst the present conception is that of the general condition of the patient first and the joint secondly.

In adults this is true to a certain extent, but in children this remark is more apposite. If we contrast the reactions of adults and children to tuberculous bone affections we observe that the natural processes do not wall off the disease with such frequency as in adults. Painter[2] remarks: "This is apparently antagonistic to the fact that tubercle tends to become arrested more often spontaneously in children than in adults." In children, when an operation is performed, the highly vascular and cellular spaces are opened up with knife and chisel, and dissemination of infection into new and unguarded localities takes place. In fact, whilst in adults the healing of tubercle is accompanied by the formation of a barrier of dense fibrous tissue, in children the young and rapidly-growing tissues do not assume this sclerotic action. We may take it then that in children the general resistance to this disease is greater than the local warding-off power, and in adults the reverse is the case.

In addition to these pathological observations, the truth of which it is difficult to deny, there are certain factors which are responsible for the change in surgical opinion during the last decade. These factors are four in number—namely: 1. The climatic treatment of bone and joint tuberculosis. 2. The employment of Roentgen rays. 3. The improved use of the new tuberculins, and the evolution of methods designed to check and control their action. 4. The recognition of the value of supporting appliances, their wider use, and the ingenuity which has been displayed in inventing new apparatus or modifying old ones to meet various conditions of deformity or limitations of movement.

CLIMATIC TREATMENT.

1. Tuberculosis of joints should be treated by open-air methods exactly as pulmonary tubercle is, and results are obtained which are very gratifying. In the year 1902, at the suggestion of Dr. Dawson Williams, I collected statistics from some of the children's hospitals in London and embodied the results of the observations in my articles.[3] I

[1] Pennsylvania Medical Journal, January, 1906.
[2] American Journal of Orthopedic Surgery, January, 1905, p. 26.
[3] The Urban Treatment of External or Surgical Tuberculosis, Brit. Med. Jour., Feb. 21st, 1903. Is the Urban Hospital Treatment of External or Surgical Tuberculosis Justified? Practitioner, September, 1903. Also Tuberculous Cripples, in Kelynack's Tuberculosis in Infancy and Childhood, p. 188, London, 1907, Baillière and Co.; and Tuberculous Bone and Joint Disease in Childhood, its Effects on the Duration and Usefulness of Life, British Journal of Tuberculosis, July, 1907.

venture to think that these articles were instrumental in inducing the trustees of the Treloar Hospital at Alton to alter their original conception of the objects of their institution, and to admit for treatment tuberculous in preference to other kinds of cripples.

The articles which I wrote showed, first, that children with tuberculous joint disease are not fit subjects for systematic treatment in the wards of hospitals in towns and cities; and, secondly, that when treated conservatively in the country the number of operations required was much diminished, the severity of the operations was decreased, and the results were more satisfactory, in so far that more cures were obtained and the cures were more permanent.

Since these dates a great mass of material has come to hand bearing out fully the conclusions of the writer and enforcing these lessons. My opinion is strengthened by the results obtained at the Treloar Hospital and College at Alton and at the Sevenoaks Hip Hospital. Of the former institution Mr. H. J. Gauvain is the resident medical officer, and I am indebted to him for the following statements: "The great majority of patients, taken early, are discharged with good movement. The wage-earning capacity of patients is, I believe, little, if at all, impaired in early cases, provided that judicious employment is chosen for the patient."

I asked Mr. Gauvain to inform me as to the causes of death. He says: "You may be interested to hear that out of 336 cases, which have been under treatment here so far, only one death has occurred, and this case was that of a boy suffering from hip disease who developed tuberculous meningitis eight days after admission. You ask me whether I have been compelled to operate. In only one case have I operated—for a caseous abscess of the hip. ..... As for my opinion on the value of operative interference in the cases which have come under my notice, the results have so commonly been bad that it has made me very averse to operative interference in these joints."

THE EMPLOYMENT OF X RAYS.

2. We now pass on to the use of Roentgen rays. In diagnosis they are invaluable, but the photographs must be of the best possible type and so clearly focussed that all the details of the structure of bone are quite distinct. By their help we can see the beginning of the disease; we can watch its progress; we note the effects of our treatment and check and regulate our methods; and, I may add that in some resistant forms of tuberculous synovitis systematic exposure to the X rays has appeared to have some effect in producing retrogression of the disease.

In all cases I employ now the X rays systematically for the diagnosis of the disease and regulation of the treatment. As one proof of their practical value I may say that I have been astonished to find how frequently tuberculous disease is situated in the acetabulum as well as in the head of the femur. In fact, primary or associated acetabular disease exists much more frequently than is suspected.

3. As to the use of *tuberculins*, we are happy in being able to hear the opinion of Dr. A. Butler Harris on this point.

4. By the ingenuity of surgeons, who have given special attention to the subject, patients have been enabled to get up much earlier and to be treated by what may be called the ambulatory method, with all its advantages to general health, without running the risk of lighting up the disease or incurring a severe and disabling deformity.

ADVOCACY OF CONSERVATIVE TREATMENT.

It appears that I scarcely need evoke the opinion of my hearers on the treatment of very early and uncomplicated tuberculous arthritis. At any rate, the majority will agree that rest, protection of the joint, prevention of deformity, and treatment of the sanatorium type are indicated.

Tuberculous arthritis is a disease varying very much in intensity. In one case the affection is virulent and the course of the disease is acute, resulting, on the one hand, in rapid degeneration of the joint, with extension to the shaft and the development of osteomyelitis in the cancellous tissue, and on the other hand in rapid and destructive changes in the joint. In other cases the disease is comparatively mild and runs its course without any complications such as abscess, tuberculous diaphysitis, or the formation of sinuses, and the part recovers with little or no loss of function. In the early stages of the disease there is no possibility of telling which type exists, and unless we watch the progress of the disease constantly, by using the Roentgen rays and by clinical observation, and note the reaction of the patient to vaccination, we are quite unable to form an opinion as to its future course.

Some cases of tuberculosis are obstinate and refractory, due not so much to the local conditions as to what, for want of a better term, is called "loss of resistance" on the part of the patient. It is in those cases that the question arises, "Shall we interfere surgically or not?" when the improved general methods which I have indicated seem to have failed.

I say advisedly "seem to have failed," because the treatment of this affection is in any case a long business. It is often months before the inflammatory and destructive conditions subside and healing sets in, and it is usually two or three years before a joint can be regarded as functionally cured, whether it is mobile, ankylosed, or partly sound at the end of that time. So that my inclination is to persist and to persevere with climatic and conservative measures rather than to allow my hand to be forced to interfere surgically. We have, however, under the present conditions in this country, to weigh carefully the patient's opportunity of climatic and sanatorium treatment. Unfortunately, it may be said with truth, and I trust without offence, that the successful therapeusis, not only of pulmonary, but also of articular tuberculosis is largely a question of means and opportunity. Sufferers with ample resources stand a better chance of recovery and useful joints than impoverished hospital patients.

Nevertheless, it is my deliberate opinion that in children under 15 years of age—and to a less extent in adults, where other factors, such as the wage-earning capacity and the inability to obtain sufficient rest must be weighed—the less the extent to which surgical intervention is practised the better is the prospect of recovery of the affected part, of its regaining its functions, and of usefulness in life.

It may be urged that many lesions which have become quiescent in childhood light up in adult life. No doubt this is so, but we must consider two points—namely, that several years of freedom from the disease have been gained and the part has been useful during that time; also, that tuberculous arthritis in adults is more amenable to radical surgical measures than in children. In this expression of opinion I am supported by many of the most recent writers on the subject, notably by C. F. Painter,[4] J. W. Sever,[5] and Augustus Wilson.[6] The last named goes so far as to say that "we now look upon the avoidance of surgical interference as most conducive to the recovery of the patient."

These remarks, then, apply not only to the cure of the disease, but to the question of complications, such as an affection of other joints and the onset of general tuberculosis. There is reason to believe, and some surgeons think they have evidence to show (J. W. Sever[7]), that frequent curettings have been followed by implication of other joints much earlier than when the case has been left alone. And some of us have been shocked from time to time by the sudden onset of tuberculous meningitis after a very trivial operation—e.g., scraping a finger which is the site of tuberculous dactylitis. The general complication has followed on the operation so quickly and so unexpectedly that it is reasonable to regard one as having a distinct causal relationship to the other.

TREATMENT OF ABSCESS.

Bearing all these points in mind I pass on to speak more specifically of operations, and I have been asked, amongst other points, to elicit your views upon the treatment of abscess. Its existence does not necessarily involve immediate evacuation. If the pus is deeply placed, and if the patient is placed at rest in good air, the fluid contents are sometimes absorbed, and the caseous matter becomes encapsuled. If, however, in spite of these measures, the abscess increases in size, its sac should neither be allowed to become adherent to the skin nor to open spontaneously, as an opening often forms in an undesirable position and is liable to septic infection.

As a general rule, I am strongly in favour of that form of treatment introduced by Ménard at Berck-sur-Mer and rapidly

[4] American Journal of Orthopedic Surgery, vol. iii., July, 1905, No. 1, p. 24 *et seq.*
[5] Journal of the American Medical Association, 1910, Dec. 17th, p. 2128.
[6] Pennsylvania Medical Journal, January, 1906.
[7] Loc. sup. cit.

coming into favour in this country, owing to the advocacy of M. Jacques Calvé and Mr. Gauvain. The details are fully given in THE LANCET,[8] and the article is worthy of the most careful perusal.

When pus continually re-forms it is generally due to the extension of bone disease or to loose sequestra, and the cause can be ascertained by means of Roentgen rays. Then I advocate opening the abscess, invariably by more than one incision so as to permit free access to the cavity and allow the pockets to empty. The fluid contents and the sequestra are removed without any violent scraping of the sac wall, which should be merely rubbed with a soft swab. Pure carbolic is then applied and left in for about a minute and washed out with absolute alcohol. The cavity is dried and closed immediately so as to obtain primary union. It frequently happens that a little fluid subsequently accumulates beneath one of the wounds. A sterilised probe is then inserted, the fluid pressed out, and the wound allowed to heal.

I venture to say that drainage-tubes are an abomination and a source of grave danger, as they involve the risk of secondary infection; and in the opinion of careful observers the activity of the tubercle bacillus is accentuated by the presence of pus-producing organisms. Further, there are grounds for saying that the onset of lardaceous disease is often determined by mixed infection.

The treatment of sinuses is always a matter of great difficulty. In 1908 injections of bismuth-paste were introduced, but as some patients were poisoned paraffin wax has been substituted. Its efficacy and its mode of action are still *sub judice*.

RADICAL OPERATIONS.

Passing on now to the question of more extensive operations for tuberculous arthritis, "I do not believe that there has ever been a surgeon who has had to treat few or many such cases who has not searched for a radical plan of procedure, for some way of shortening the treatment and lessening the destructive action of the infection."[9] "Occasionally we become enthusiastic temporarily over attempts to extirpate tuberculous foci in childhood. These radical operations, although commendable and to casual consideration reasonable, are not attended with such results as to lead the surgeon to persist."[10]

What are the tests of the success of operation? They are complete eradication of the disease from the parts and retention of perfect function. We must admit that nearly all operations fall short of these ideals. Too often cure by operation means mutilation of the part and sacrifice of its functions. This remark may require modification when we deal with what may be termed focal or para-articular lesions.

However, let us discuss what conditions call for erasion and excision of the joints of the lower extremity. As to the formal excision of joints, formerly done in great numbers, there is ample justification for the criticism that there is scarcely any operation which looks so promising and satisfactory on the operating table and proves so disappointing afterwards. The disease is not cured because the infection is either too extensive or is not entirely removeable; function is impaired or lost, and the patient is crippled by the deformity.

EXCISION OF HIP-JOINT.

As to excision of the hip-joint, it has its opponents and its advocates. Of the former, Professor Howard Marsh is perhaps the chief in this country and has been most consistent; and of the latter, Mr. G. A. Wright is prominent. I feel myself compelled to say that the opponents are more numerous than the advocates, and their opinions appear to me more weighty and convincing, their prognostications as to the final result more exact.

If we refer to a recent text-book[11] we find the matter discussed *in extenso*, and it appears that excisions may be done only in those cases where the difficulty in obtaining treatment on those lines which are known to give the best results—namely, by prolonged rest for years in special institutions [such as the country branch of the Alexandra Hospital, the Sevenoaks Hip Hospital, the Treloar Hospital at Alton, and the Liverpool County Hospital[12]]—is found to be insuperable.

An excision of the hip is often an imperfect operation because of the involvement of the acetabulum and pelvis by the disease in such a way as to render its complete removal a matter of grave danger and often of impossibility. If there are points which have been impressed upon me by systematic examination by X rays of hip-joint cases coming under my notice, they are that primary disease of the acetabulum, formerly thought to be very rare, is not so; and that the number of cases of simultaneous involvement of both the femur and acetabulum is much greater than is thought. I begin to suspect that the total of the two conditions will prove to be not far short of 50 per cent. of the total number of cases.

One important point should always be kept in mind before performing the radical operation for tuberculous arthritis. We should satisfy ourselves previously that we are able to remove the diseased area *in toto* without destroying the functions of the part and without endangering our patient's life; and I ask, Has this always been possible when formal excision has been decided upon? An excision of the hip often proves to be an imperfect operation because the whole of the diseased part cannot be removed.

The final results of the operation have been ably set forth by Mr. Ralph Thompson.[13] He says:—

> Of 200 cases in which the hip-joint has been excised, 70 may expect to be the subjects of progressive disease, and of these 30 may be expected to die from continuation and spread of the disease; 55 will rank as partial failures, in that in them sinuses persist; 70 cases may look forward to a complete recovery; 2 cases, however, among these will have a flail-joint. The best result, a useful joint with free mobility and without sinuses, will fall to the lot of 25 of 200 people, or 1 in 8 of those operated upon.

Mr. Thompson has arrived at these conclusions from a study of 40 cases. In 2 cases more than 10 years, in 14 cases more than 5 years, in 4 cases more than 3 years, in 12 cases more than 1 year, and in 5 cases less than a year had intervened between the operation and the date of report.

I question if these results are better than those obtained by rest and splints. To some surgeons the presence of a tuberculous focus may be a temptation to operate. I suggest that it is better to deal with the conditions as they arise and try prolonged rest in the best surroundings. If abscesses appear, deal with them on the above lines. If sequestra form, localise them by means of X rays and remove them.

OPERATIONS ON THE KNEE-JOINT.

Of the two operations practised upon the knee-joint I regard erasion as much over-rated. If its objects are to eradicate the disease and to obtain movement in the joint afterwards, then I am prepared to affirm that, even in the event of cure of the disease, fibrous ankylosis and loss of movement follow, or else that the degree of movement is so small as to be useless. Frequently, too, the disease reappears, partly from the irritation to which the part is subjected in its deformed position; and, even if it does not do so, the tibia is so often displaced backwards and outwards, and the knee-joint is so bent as to render the limb an encumbrance rather than a help.

The less the operation partakes of the nature of an arthrotomy and the more it partakes of an erasion, the less useful is the limb afterwards. I have performed limited arthrotomy of the knee in cases of localised tuberculosis.

In one instance a tuberculous mass of the size of a pigeon's egg had formed in the infra-patellar pouch on the inner side, leaving the movements of the knee-joint entirely free. I dissected the mass from the sub-synovial tissue without opening the joint and the patient had a comparatively useful knee for three years. Then extensive involvement of the joint set in and excision was done.

The safest course in tuberculosis of the knee-joint is to give a long and patient trial to conservative treatment, and if this fails to give up all hopes of a moveable joint and do a formal excision, having regard to the epiphysial lines, and endeavour to secure sound bony ankylosis and a straight limb.

ANKLE AND FOOT.

If we pass on to the ankle and foot, these parts appear to present unusual facilities for operative treatment on tuberculous foci, and in many cases the results have been strikingly successful, especially when a single bone in the foot has been

[8] THE LANCET, March 5th, 1910, p. 633.
[9] H. L. Sherman: California State Journal of Medicine, March, 1907.
[10] C. F. Painter: American Journal of Orthopedic Surgery, July, 1905, p. 104.
[11] Jacobson and Rowlands: The Operations of Surgery, fifth edition.
[12] The words in brackets are inserted by the writer.
[13] Guy's Hospital Reports, 1905, vol. lxv.

affected, or there is a localised focus in the tibia or fibula. We have, however, to remember that when we come to operate the appearances seen by the X rays are always less severe than those we find on actual inspection, for the synovial membrane is frequently found to be extensively invaded.

Even in dealing with the ankle and foot, the statistics which are available show the best results are obtained by rest and conservative treatment. James Warren Sever[14] has given us comparative statistics on these points. 101 cases of disease of the ankle and tarsus were operated upon, including 45 excisions of the astragalus, 14 removals of the lower end of the fibula, and 11 removals of the lower end of the tibia. Good movement of the part followed in 29, slight in 22, none in 47. In only 7 was there no subsequent deformity. In 65 thickening remained about the malleoli; in 29 some definite distortion of the foot followed. The average duration of the disease from its onset, in the operative cases, until treatment was discontinued was 19·8 months—and of treatment itself 10·1 months.

For comparison, results in 88 non-operative cases are tabulated. Motion was good in 32, slight in 23, and none in 33. Deformity was entirely absent in 4, thickening was present in 63, and distortion was present in 21. The average duration of disease until cessation of treatment was 16·1 months in 99 cases; the average duration of treatment itself was 6·8 months, giving an average in favour of the non-operative series of 3·3 months from the beginning of the treatment until it was no longer necessary. The figures show that "there was a distinct gain in time, also in the function and lack of deformity of the foot in the non-operative series."

JOINTS OF THE UPPER EXTREMITY.

The joints of the upper extremity present problems differing from those of the lower. Whereas the chief functions of the lower limbs are stability and weight-carrying, those of the upper extremity consist of highly educated movements, and the importance of preserving them is undisputed. Operative interference, if it is likely to have the desired object, may therefore be considered at an earlier date than in the lower extremity. In children, however, erasion frequently proves to be better than a formal incision when conservative treatment has failed.

In the case of the shoulder-joint there is, however, an exception to be made. Other surgeons have noted the fact as well as myself that tuberculous arthritis of the shoulder-joint is frequently followed by pulmonary phthisis. In one case I noted the sequence of tuberculous arthritis of the shoulder: a dry apical pleurisy and phthisis, as if direct lymphatic extension had taken place. This observation may lead the surgeon to attempt eradication of the disease at the shoulder-joint at an earlier stage than would otherwise be the case.

FOCAL EXTRA-ARTICULAR LESIONS.

There are two points on which discussion may be profitably provoked—namely, the question of focal, extra- or para-articular lesions, such as are found in the great trochanter in children, and the treatment of tuberculous dactylitis.

As to the former, the point which advocates of operation should bear in mind is that there should be a sufficiency—as shown by X rays—of healthy bone between the lesion and the limits of the neighbouring joint. If there is not, any opening up of the vascular and cellular spaces often leads to arthritis; and of the comparatively few cases of this nature on which I have operated I may say that the disappointments and failure to save the neighbouring joint have exceeded the successes in the proportion of three to one.

TUBERCULOUS DACTYLITIS.

Tuberculous dactylitis has been shown by Ménard and others to be an exceedingly formidable type of disease. Disease of the spine more frequently complicates it than does disease of the larger joints, and it is responsible for an undue ratio of generalised tuberculosis.

Conservative and climatic measures should be carried out from the first, and if these do not give an early and satisfactory result amputation of the finger is desirable. The difficulty is to deal with these cases when the metacarpal bones are affected, with implication of the neighbouring tendon-sheaths. It is an obstinate and refractory lesion, but the same remarks apply to this operation as to operation for any other form of tuberculosis—namely, when conservative treatment has failed, and if an operation is done, let it be thorough.

SUMMARY.

To sum up, the objects of every form of treatment of tuberculous arthritis must be: (1) To eradicate the disease; (2) to preserve the functions of the part; and the question is whether these results are more frequently obtained by climatic and conservative measures or by so-called radical operations. It appears to me that the balance of experience gained in treatment during the last decade shows that unquestionably conservative treatment is the better in childhood. Time is saved, the resultant deformity is diminished, and there is less risk of generalised tuberculosis when the treatment is non-operative.

[14] Journal of the American Medical Association, Dec. 16th, 1910, pp. 2128–33.

THREE CASES OF ERYTHRÆMIA (POLYCYTHÆMIA), IN ONE OF WHICH THE TOTAL VOLUME OF THE BLOOD WAS ESTIMATED.

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I HAVE recently seen the three following examples of this disease, known also as Osler's disease, Vaquez's disease, and splenomegalic polycythæmia, and because they each show features of interest they may be considered worthy of record. Unfortunately, they do not in any way indicate why the blood should hypertrophy to the extraordinary extent that it does in this condition. In none of them could any cause for the polycythæmia be discovered, and it was clear from the history of the first patient that the disease had begun only three years before I saw him, and then his attention had been called to it by his becoming dusky; in the other two the diagnosis was only reached by a routine examination of the blood of patients whose spleens were enlarged, for neither of them was cyanotic, and thus they illustrate that the disease should not be called "splenomegalic polycythæmia with cyanosis," as is sometimes done.

The noteworthy points in the first case were that the splanchnic vessels were apparently very distended, for the patient had much indigestion, was frequently sick, and almost certainly had hæmatemesis. This and the oozing of blood from the gums no doubt gave some temporary relief, as venesection may. The appearance of many little patches of dilated venules on various parts of the skin and the dilated vessels of the conjunctiva may also be regarded as evidence of the extreme distension of his veins, which, too, was well shown on ophthalmoscopic examination. Other observers have noticed the appearance of the fundus oculi. Judging by this case, I should say it would always be easy to recognise. It would be interesting to know if the other two patients will become cyanotic later. In the first patient the urine contained a little albumin and a few casts and a few red cells, this harmonising with the hæmatemesis and oozing from the gums. These characters of the urine might easily lead to an incorrect diagnosis of chronic nephritis; indeed, this had been the diagnosis in this case before the blood was examined, but the arteries, the heart, and the blood pressure were normal—a remarkable fact considering the enormous volume of blood, for the determination of which we have to thank Dr. C Gordon Douglas. The volume was three times the normal and the red cells were double the normal per cubic millimetre, which means that the patient had in his blood six times the normal number of red cells, and the total amount of hæmoglobin was about four times the normal. The number of white cells per cubic millimetre was half as much again as normal (the increase, as usual, being in the polymorphonuclear cells, which formed 84 per cent. of the total white cells), so that the total increase of white cells was about four times the normal. Such blood must nearly have reached a volume and density which would render the circulation very difficult. It will be noticed that the specific gravity was very considerably above the normal—viz., 1076. Considering the very high oxygen capacity of the blood a complete metabolism experiment extending over a long period

ought to be carried out on a case of erythræmia. It is noteworthy that the patients in Cases 1 and 2 lost weight—there was no information as to weight in the third case, which was of mild character, and this may have been due to disordered metabolism, but then the indigestion associated with the overful splanchnic vessels has to be borne in mind. None of the patients were excessively hungry.

The great point of interest about the second case is that an extreme hypertrophy of an accessory spleen, combined with a moderate enlargement of the spleen, led to the formation of an abdominal tumour of such a shape that none who saw the patient thought the tumour could be a spleen. The excessive oozing after operation indicates an overful vascular system, but by no persuasion could we get the patient to submit to examination of her blood so as to estimate the total quantity. The last count showed double the normal number of red cells and four times the normal number of white cells per cubic millimetre. Probably there is not a great increase of the volume of the blood in the case, for the patient is not cyanotic.

The third is not a severe case. It is of interest that the patient had had an exploratory laparotomy, so presumably at some period of her illness there was some doubt as to whether the abdominal tumour was a spleen. She is probably progressing slowly, for the red cells are but 8,000,000 per cubic millimetre and the white cells are not yet increased, nevertheless the spleen is larger than in either of the other two cases.

CASE 1.—The patient, who lived chiefly in one of our colonies, came to England for a few weeks on business. He was 42 years old. He had always been absolutely well till three years ago when he began to suffer from indigestion and his face began to get a deep colour, so that some of his friends chaffingly said he had been too convivial; others that he had taken too long a holiday in the sun. Neither of these suggestions was true. During the last three years the indigestion has increased, and several little groups of dilated venules (telangiectasis) have appeared in various parts of the skin. The patient has lost a stone in weight and has been frequently sick, and from his description of the vomit I think there is little doubt that it contained blood, but he was not sick during his stay in this country. He is also liable to bleed considerably from his gums. Dr. C. H. Mollison, of Melbourne, found 10,700,000 red cells. When I saw the patient he had a full-blooded livid look, especially noticeable on the face, but evident all over him. The heart and lungs were healthy; the spleen reached to the umbilicus; the liver was just palpable; there were no enlarged lymphatic glands; the gums were bleeding, and the tongue was clean but livid. The urine had a specific gravity of 1015; there was no sugar, but a very small amount of albumin. The slight deposit contained a few hyaline and finely granular casts, a small number of red cells, and some leucocytes; there were no crystals. An examination of the blood showed: red cells, 9,800,000; no poikilocytosis; no polychromasia; no nucleated or other abnormal cells; white cells, 15,300; small lymphocytes, 7 per cent.; large lymphocytes, 7 per cent., polymorphonuclears, 84 per cent.; eosinophiles, 2 per cent.; hæmoglobin, 131 per cent.; colour index, 0·67; specific gravity, 1076; blood pressure, 130. The eyes were blood-shot; there was a little conjunctivitis. The ophthalmoscopic appearances were striking, for the veins were obviously overful and the blood in them was of a very dark-blue reddish tint. It seemed to me the appearance was such that I should recognise it again as characteristic of the disease, and in this my ophthalmic colleague, Mr. H. L. Eason, agreed with me. Fortunately the patient was interested in his case and he willingly made a journey to the physiological laboratory at Oxford, where Dr. Gordon Douglas, to whom I am much indebted, kindly estimated the total volume of blood by the Haldane and Lorrain Smith method, with the following result: Weight of patient in clothes, 126 lb.; naked, approximately 114 lb., or 51·8 kilos. Hæmoglobin percentage (Haldane scale) = 140, equivalent to an oxygen capacity of 25·9 c.c. per 100 c.c. of blood. Amount of CO given at standard temperature and pressure = 220 c.c., giving a percentage saturation in the blood of 8·4. Total capacity of the blood for oxygen (muscle hæmoglobin counted as if it were blood hæmoglobin) = 2620 c.c. Total volume of blood calculated from the total and percentage oxygen capacities = 10,200 c.c. Oxygen capacity per 100 grms. body weight = 5·06 c.c. Blood volume per 100 grms. body weight = 19·7 c.c. Red cells per c.m. = 9,720,000. For comparison with this:—Douglas (average during several months): weight, 61·5 kilos.; red cells, 4,890,000; hæmoglobin, 98·8 per cent. = 18·3 per cent. oxygen capacity. Total oxygen capacity = 830 c.c. = 1·35 c.c. per 100 grms. body weight. Blood volume = 4566 c.c. = 7·43 c.c. per 100 grms. body weight. Haldane (average during several months): weight, 79·5 kilos.; red cells, 4,670,000; hæmoglobin, 100·6 per cent. = 18·6 per cent. oxygen capacity. Total oxygen capacity = 902 c.c. = 1·13 c.c. per 100 grms. body weight. Blood volume = 4821 c.c. = 6·06 c.c. per 100 grms. body weight. It will be seen that the patient had roughly four times the normal amount of hæmoglobin and three times the normal amount of blood for a man of his weight.

CASE 2.—An unmarried woman, aged 57. She said she had in the past suffered from neuritis and erythema. She looked a trifle pale and drawn and had lost 2 st. in weight within a comparatively short time. She now weighed 9 st. 0½ lb. Her height was 5 ft. 5 in. She had complained of much severe irregular abdominal pain and some flushing of the hands. A large very irregular tumour could be felt in the abdomen at the left and upper part. At no time had it felt at all like a spleen. Several consultations had been held, and as it was extremely difficult to determine the nature of the tumour or even the organ in which it originated an exploratory laparotomy was decided upon and I was present at the operation. The tumour felt was found to be a moderately large spleen, the notch of which was just under the ribs and could not therefore have been felt through the abdominal wall; close to the anterior margin of the spleen was an accessory spleen, disc-like and extending forwards to the middle line. It was considerably enlarged, being rather larger than a five-shilling piece. It was this combination of enlarged spleen and enlarged accessory spleen that gave an abdominal tumour of such a shape that none of the medical men who saw the patient before operation thought it was a spleen, although the possibility had been remembered. There was some capsulitis both of the spleen and the accessory spleen. There was an exceptional amount of oozing of blood for 72 hours after the operation on August 27th, 1911. A few days after the operation a blood count made by Dr. Alfred C. Coles showed: red cells, 7,375,000; white cells, 43,400; hæmoglobin, 90 per cent.; colour index, 0·6. The red cells were normal in appearance. A second count three weeks later (Sept. 18) showed: red cells, 7,880,000; white cells, 27,400; hæmoglobin, 95 per cent. The patient felt much better after the operation and gained weight. Dr. Coles did a third blood count on Dec. 14th, 1911, and found red cells, 9,546,600; white cells, 46,350; hæmoglobin, 117 per cent.; colour index, 0·66. He reports as a result of an examination on that day: "No cyanosis; there was some dilatation of vessels, but not enough to suggest the condition. The spleen now reached 4½ in. below costal margin."

CASE 3.—The patient, aged 28, was admitted into Miriam Ward, Guy's Hospital, under my care on Nov. 13th, 1911, and subsequently was transferred to Mary Ward. She had been quite healthy until three years ago, when she first noticed pain and discomfort in the left side of the abdomen, sufficient to prevent her from doing her housework. Eighteen months ago the abdomen was opened at another hospital and the tumour which had been previously felt was found to be an enlarged spleen. As the abdominal discomfort continued she came into Guy's Hospital. There was nothing abnormal in her appearance—in fact, all that could be detected wrong after a very complete examination was that her spleen, which was easy to feel, reached down to 2 inches below the level of the umbilicus and forward to within an inch from the umbilicus. The enlargement of the spleen led us to examine the blood with the following result: red cells, 8,600,000; white cells, 7000; polymorphs, 62 per cent.; large lymphocytes, 24 per cent.; small lymphocytes, 12 per cent.; eosinophiles, 2 per cent.; hæmoglobin, 100 per cent. A second blood count done a few days later gave red cells 8,000,000 and white cells the same as before. The blood pressure was 134 millimetres of mercury. Examination of the optic discs showed nothing abnormal. The temperature and pulse were normal for the ten days during which the patient was in the hospital. There was no evidence of syphilis and nothing of importance in the family or personal history. Unfortunately

no persuasion that we could bring on her could make her yield to our request that we might take the total volume of her blood.

Wimpole-street, W.

SOME POINTS IN THE DIAGNOSIS AND TREATMENT OF CHRONIC DUODENAL ULCER.

BY B. G. A. MOYNIHAN, M.S. LOND., F.R.C.S. ENG.,
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IN THE LANCET in 1910[1] there appeared the paper with which I opened the discussion at the Royal Society of Medicine upon Duodenal Ulcer. In the time that has passed since then certain features of this disease, in respect both of diagnosis and of treatment, have been made clearer and their relative values more accurately determined. In so far as the diagnosis of the disease is concerned the statement remains true, after all the arsenal of argument delivered against it, that it is upon the clinical history of the case we chiefly rely for accuracy. The anamnesis which was fully recited in the paper to which I refer, if considered in *all* its details, is so characteristic that a diagnosis of duodenal ulcer based solely upon it will very rarely prove inaccurate when the parts are examined at the time of operation. I emphasised also the fact that the duodenal ulcer, whose presence had been predicted upon the strength of the history alone, could be demonstrated to the conviction of all; that the ulcer was a real and not a fanciful thing. Perhaps the chief criticism to which that paper was subjected, and certainly that which had been most confidently expected, was that the picture of the disease drawn therein did not differ notably from that which had been recognised by generations of physicians as due to "acid gastritis" or "hyperchlorhydria."

When first we began to disentangle the authentic symptoms of duodenal ulcer, and by degrees to recognise clearly the well-defined clinical picture of this disease, I was struck with the similarity, indeed in some respects the identity, of the symptoms recited to me by the patients to those described by the most authoritative writers on medicine as due to "hyperchlorhydria." And when repeatedly I found that cases diagnosed by physicians of the first rank, well versed in the literature and of much practical experience, as "hyperchlorhydria" were in fact cases of duodenal ulcer, and would so be demonstrated upon the operation table, I felt entitled to claim that in the diagnosis of such cases the physician walked by faith and the surgeon by sight. And when, further, it was found that in a series of such cases an excess of free HCl was not present in the majority, it became quite certain that there had been confusion not only in terms but in the whole conception of the cases. A genuine organic disease was miscalled "functional." My own experience of the relationship of hyperacidity to duodenal ulcer, in all the phases in which we meet it upon the operation table, from early active ulceration to the final cicatricial stenosis, is roughly this: that in about 40 per cent. of the cases free HCl is in excess, in 40 per cent. it is approximately normal, and in 20 per cent. it is below the normal. It may be that there is a geographical factor in the different experiences of different authors in their examinations of the amount of free HCl. Dr. A. F. Hertz has drawn my attention to the fact that at the discussion on the treatment of gastric ulcer at the German Congress for Internal Medicine held in Wiesbaden in 1909, Lenhartz, of Hamburg, von Müller, of Munich, and von Krehl, of Heidelberg, laid stress upon the differences in the results of analysis of the gastric juice in patients suffering from gastric ulcer in different localities. In Munich, for example, hyperacidity is exceptional, and in at least 20 per cent. of the cases there is hypochlorhydria. In North Germany, on the other hand, hyperchlorhydria is almost constantly present in gastric ulcer. In France, or at any rate in Paris, hyperchlorhydria appears to be almost constantly present in gastric ulcer. In this discussion, however, the possibility, indeed the strong probability, that the diagnosis in many cases was erroneous cannot be ignored. The work of the surgeon has shown how very difficult the accurate diagnosis of gastric ulcer always is.

[1] THE LANCET, Jan. 1st (p. 20) and 15th (p. 173), 1910.

Dr. G. A. Gibson[2] mentions a series of cases of duodenal ulcer proved by operation in which he found that the total acidity varied from 0·01 per cent. to 0·26 per cent. The amount of free acid varied between 0·02 (very small) and 0·18 (extremely high); so that Dr. Gibson's experience shows that "in undoubted duodenal ulcer the condition of acidity in the stomach varies within wide limits."

Dr. F. Craven Moore, who has devoted a great deal of attention to the chemistry of gastric and duodenal disorders, considers it essential that no less than three separate examinations of the stomach contents should be made at intervals of a few days, and that the averages of these three should alone be considered. If his contention is justified, as it probably is, then the work of many investigators must be set aside. Dr. Craven Moore has examined the stomach contents in a series of cases in which duodenal or gastric ulcers were actually demonstrated upon the operation table, and in every case of the former disease an excess of free HCl was found.

It is now well known that hyperacidity may be present when symptoms quite different from those described in many of the text-books are elicited in the history, or even when no gastric symptoms whatever are present. Hyperchlorhydria is found, fleetingly, in cases of cholelithiasis; it is present in cases of gastric ulcer, of colitis, of tuberculous disease of the intestine or of the mesenteric glands, and of appendicitis. H. J. Paterson, who has consistently and closely studied the gastric chemistry in cases requiring surgical treatment, writes that he has "operated upon nearly 50 cases of hyperchlorhydria, and in every one of them there was an organic lesion either of the stomach, duodenum, gall-bladder, or appendix."[3]

I have no doubt that the different disclosures as to the quantity of free or active HCl in the stomach contents related by various observers may be in part due to the different stages of the disease in which the examinations are conducted. If the ulcer is active, the patient being in the fury of one of his "attacks," free HCl is probably present in excess in the majority of the cases. If the "attack" is over, or if the symptoms the patient presents are those of a stenosis which has at last developed at the site of a chronic ulcer, then the free HCl may be diminished or be absent.

The whole question may, I think, be summed up in this way. Hyperchlorhydria, a term which has been debased and shorn of its original significance, should not be used in a clinical sense, but should be held strictly to indicate the excess of active hydrochloric acid in the stomach contents.[4] Hyperchlorhydria is present in most cases of duodenal ulcer during the active stage of ulceration. There may be hypochlorhydria in cases of duodenal stenosis; in the intervals between "attacks"; or, rarely, in the acute phases of ulceration. There are possibly geographical differences in the frequency and severity of hyperchlorhydria in cases both of duodenal and of gastric ulcer. Hyperchlorhydria is present in other diseases, notably cholelithiasis and appendicitis, and its presence probably explains the mimicry of the symptoms of duodenal ulcer by these various diseases. The persistent presence of an excess of active hydrochloric acid in the stomach contents is indicative of an organic rather than a functional disorder.

During the last two years the majority of my cases of duodenal ulcer have been examined by the X rays after the administration of a meal of bismuth, with milk or bread and milk. The results which Dr. L. A. Rowden has obtained have been interesting. As a rule, in uncomplicated cases of duodenal ulcer—that is, in cases where obstruction has not yet developed—a most striking spectacle is afforded by the greatly increased activity of the stomach. Food begins to pass into the duodenum at once, and continues to pass with greater rapidity than in the normal condition. By the time the pain begins to appear the stomach is nearly empty, and most of the bismuth has left the duodenum through which it shoots rapidly, and can be seen in the small intestine. The muscular activity of the pyloric portion of the stomach is exalted. In a few cases a local arrest of the bismuth in the first portion of the duodenum has led Dr. Rowden correctly to predict the presence of a pouch caused by the distorted contraction of an ulcer, in the manner first described by Perry and Shaw. In very few cases there has been some delay in the emptying of the

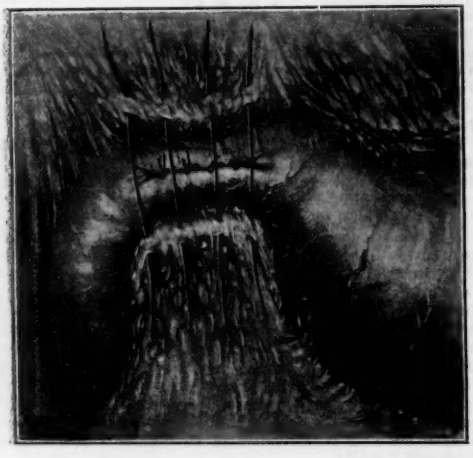
[2] Edinburgh Medical Journal, 1911, vol. vi., p. 325.
[3] Proceedings of the Royal Society of Medicine, 1910, vol. iii., p. 108.
[4] See Willcox: Quarterly Journal of Medicine, 1909, vol. iii., p. 9.

duodenum. I am not prepared to say that this condition of excitable and vigorous peristaltic movement in the pyloric antrum is characteristic of duodenal ulcer, but there is no doubt that it is almost constantly present. Further inquiry is needed, however, to discover what the activities of the stomach are in those examples of disease of the mid-gut in which its quick sympathies are aroused. This "hypertonic" condition of the stomach had been previously recognised by Dr. Hertz [5] and Dr. A. E. Barclay.[6]

In order to obtain some idea of the frequency of the passage of occult blood in cases of duodenal ulcer I had 20 cases in succession examined during the course of the year 1911. In all a duodenal ulcer was diagnosed, in all one or more ulcers or large scars were found at the time of the operation. The fæces were examined in every case by Dr. M. J. Stewart. In 10 cases blood was found in the fæces; in 2 of these it was plainly visible to the naked eye. In 10 cases it was reported that no blood was present; in 3 of these a history of melæna was given by the patient or his medical man. It is probable, however, that in cases of active ulceration in the duodenum a daily examination of the stools would reveal the frequent, if not constant, presence of blood. Dr. Craven Moore has found occult blood in 100 per cent. of his personal cases.

The diagnosis of duodenal ulcer, therefore, depends upon, first and foremost (indeed almost exclusively), the anamnesis. The history, set forth in detail in my former paper, enables a diagnosis to be made with a risk of error which, when tested by the operation, is found to be extremely small. Secondly, the discovery during the stage of active ulceration, during

FIG. 1.



Showing a duodenal ulcer infolded by sutures which are tied and cut short. The four long sutures (or ligatures) when tied draw the omenta over the duodenum and completely cover it.

the "attacks" that is, of an increased secretion of free HCl. Thirdly, the striking and possibly characteristic picture given upon X ray examination after a bismuth meal. The stomach, in the presence of active ulceration in the duodenum, seems to have an enhanced activity in respect both of its secretory and of its motor functions. Fourthly, the discovery of occult blood in the fæces during the stage of active ulceration, if daily examinations of the fæces are made. In the later stages, of course, the appearances due to slight or severe stenosis may be presented. The physical signs elicited upon an examination of the abdomen are only of the slightest value until such obstruction has developed.

So far as the surgical treatment of chronic duodenal ulcer is concerned, there can be no doubt that the only operation appropriate for the great majority of the cases is gastro-enterostomy. In 12 cases of solitary ulcer I have performed excision only; all the patients have remained perfectly well since the operation. In the remaining cases (361 in number) I have performed the short-circuiting operation. The anastomosis is made upon the posterior surface of the stomach and the jejunum is applied in the vertical direction. The after-histories of all the cases operated upon to the end of 1910, prepared by Mr. Harold Collinson, will soon appear in detail in the second edition of my book "Duodenal Ulcer." They show that the immediate mortality is small, about 1·3 per cent., and that the late results leave little to be desired. The experience of many surgeons proves, however, that gastro-enterostomy alone is not enough to make certain of complete immunity from disaster. Both perforation and hæmorrhage have occurred many weeks or months after the apparently successful performance of this operation, and have proved fatal. I consider, therefore, that a local treatment of the ulcer is essential, and this, I believe, is best carried out by the infolding of the ulcer in precisely the same manner as would be adopted if the ulcer had perforated. A few Lembert sutures taken vertically, or transversely, from one side of the ulcer to the other cause the ulcer to be buried when they are tightened. It is desirable that the stitches should under-run any conspicuous vessels leading to the ulcer, so that the circulation through them is checked. After this has been done I now always cover the duodenum by the aid of a few ligatures or stitches, taking on the one hand the gastro-hepatic omentum and on the other the gastro-colic omentum in such manner as to fold these structures over the bowel, and so to form a secure investment and protection for it (see Fig. 1).

It is essential in all cases of duodenal and gastric ulcer, when the condition of the patient warrants it, that the appendix should be examined. The frequency with which it is grossly diseased is astonishing. To illustrate this frequency and the degree of the changes which are found I have asked Mr. L. R. Braithwaite to reproduce for me the drawings which he made from the first cases we operated upon together in the year 1911 (Fig. 2). The appendix was examined and removed 12 times in 14 consecutive patients. In the remaining two cases the patient was so ill that I was unwilling to add any risk, however trivial, to that which we were compelled to run. This period and this number were selected quite arbitrarily, without any thought of what the result might be. Mr. Braithwaite, who helped me with the operations, drew the exact conditions found within a few minutes of the removal of the appendix, and his drawings are exactly reproduced here. The appendix shows some evidence of disease in every case, and in three the little tube was found to be divided into two parts entirely separate from one another. This condition of complete, or almost complete, severance of the appendix is one which appears to be unknown; in one case I found the separation to be about 1½ inches. It is important to remember the possibility of this division, more especially in those cases when the appendix seems unusually short. We examine and remove the appendix in, approximately, 9 out of 10 of all cases. In 80 per cent. of those removed there are evidences of long-standing and advanced disease.

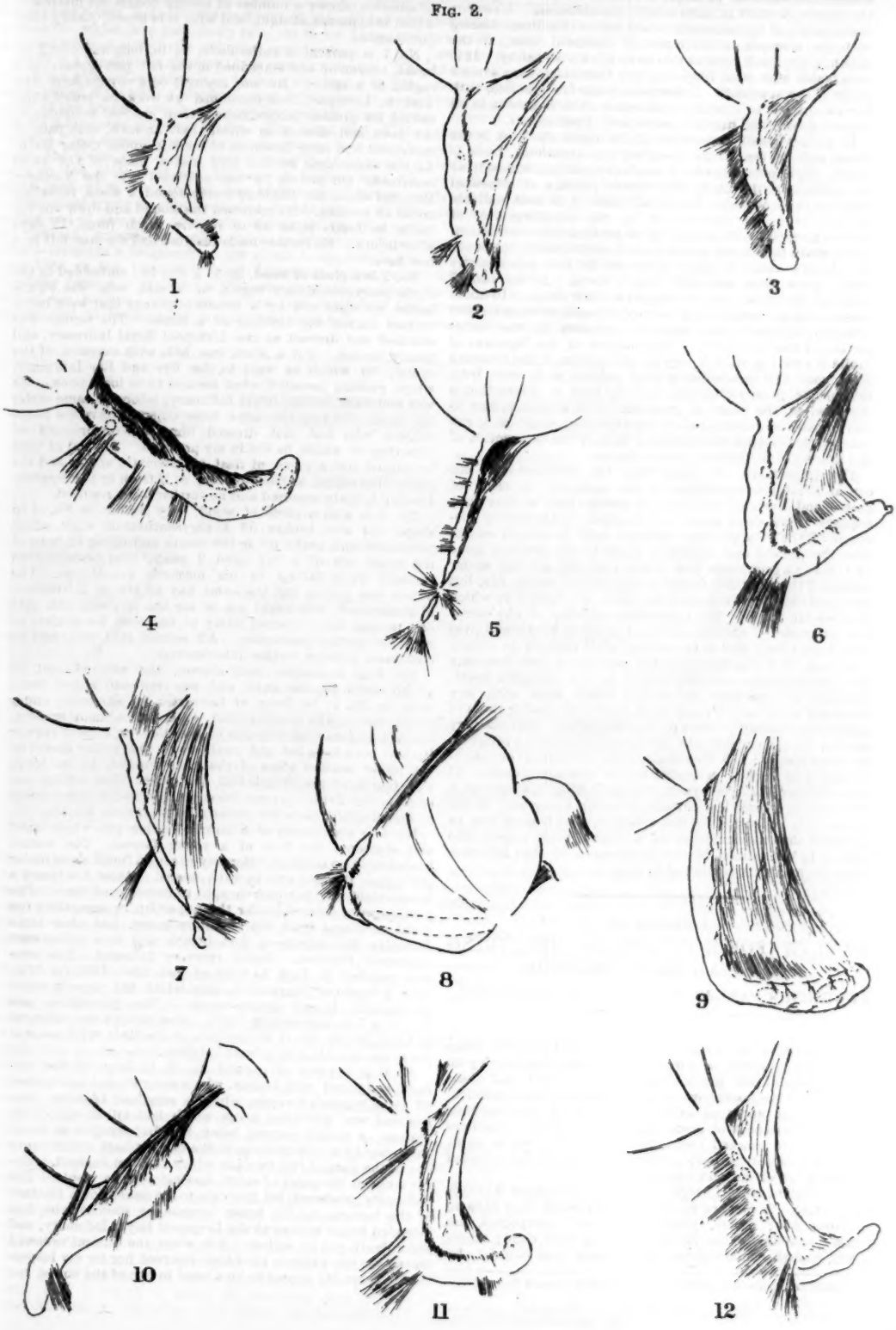
I have long held the view that the diseases of the stomach, duodenum, and gall-bladder with which the surgeon deals are not primary but secondary. They are the result, in my opinion, of an infection or of a toxæmia which has its origin for the most part in some abdominal organ. The experimental work of Turck, of Wilkie, and others strongly supports this view, as does also the knowledge we have of the development of acute ulceration of the duodenum in cases of burns, uræmia, pemphigus, erysipelas, operations upon the genito-urinary organs, and many other intensely infective conditions. The evidence has seemed to me to be strongly in favour of supposing that the source of infection in many of the cases of chronic ulcer is in the appendix; in some it is in the small

DESCRIPTION OF FIG. 2.

Drawings of the appendix *in situ* in 12 out of 14 consecutive cases operated upon for gastric or duodenal ulcer at the beginning of 1911. All, except No. 9, show extensive adhesions. No. 9 was markedly congested in its terminal inch and a half and contained two solid bodies in this part. Nos. 4 and 12 contained many solid bodies. Nos. 5, 7, and 8 are most interesting; in these the appendix is divided by fibrous bands into two distinct and separate pieces. Nos. 6 and 12 show diverticula. In all, except No. 7, there was a duodenal ulcer present; in No. 7 the ulcer was on the lesser curvature of the stomach, and in Nos. 8 and 11 there were both duodenal and gastric ulcers. Lane's ileal kink was not present in any case. The dotted circles represent foreign bodies. (Drawn by Mr. L. R. Braithwaite.)

[5] The Sensibility of the Alimentary Canal, 1911, p. 59.
[6] Archives of the Röntgen Ray, 1910, p. 123.

FIG. 2.



intestine, in some in the large, in some in the pelvic organs of the female, in some in parts outside the abdomen. A routine examination of the abdomen should follow the direct dealing with the stomach in all cases of duodenal ulcer, if the patient's condition permits this to be done with safety. It is remarkable with what frequency one then discovers a serious lesion in the appendix. I therefore make it a practice, with few exceptions, to examine and remove the appendix in all cases of gastric and duodenal ulcer and of gall-stones.

In a very small proportion of the cases the kink in the lower end of the ileum described by Arbuthnot Lane is found. It is generally not of much obvious importance in so far as the impediment to the onward passage of intestinal contents is concerned. But in all cases it is best to divide it, and by a few stitches, or by the smearing over of sterilised vaseline, to endeavour to prevent its re-formation. It is certain that in my earlier cases I overlooked the presence of "Lane's kink" in some instances, for it is only recently that I have made invariable search for it. In the last 87 cases of duodenal ulcer it was present four times. In about one-third of my cases a long meso-colic band, or some slender adhesion, is found attaching the jejunum to the under surface of the meso-colon. The purpose of the ligament of Treitz is surely to allow a very mobile portion of the intestine continuous with an absolutely fixed portion, so to move from side to side, in any direction, that no kink or obstruction is produced at the point of junction. It is extremely rare to find in cases of duodenal ulcer any evidence, either on X ray examination or upon the operation table, of an obstruction of any grade at the duodeno-jejunal flexure.

The importance of recognising the associated if not causal chronic inflammation of the appendix in cases of gastric and duodenal ulcer may be greater than at first sight appears. The days when the surgical treatment of disorders of the stomach was deferred until it seemed certain that the patient was otherwise likely to die are long gone by; the surgeon may now claim that his art has so far advanced that it is the means, not alone of saving life, but also, and chiefly, of loosening the cords of affliction in which so many are bound. The immediate mortality of any operation in cases of chronic duodenal ulcer is very small (less than 2 per cent.), and it is now our chief concern to ensure, if we can, that the future of the patients is free from any risk that may even remotely attach to the operation itself. Probably no operation in surgery which deals with any disease of equal severity can show results surpassing those of gastro-enterostomy in cases of duodenal ulcer. But one very serious, though exceedingly infrequent, blemish is found in the after-results: it is the development of a jejunal or gastro-jejunal ulcer in close proximity to the new anastomosis. If it is admitted that the hypothesis connecting the onset of a duodenal ulcer with the chronic infection discovered in the appendix is supported by the evidence, then it must also be conceded that the incidence of a jejunal ulcer may in like manner be determined by the continuance of that infection when the appendix is allowed to remain.

Leeds.

A SERIES OF
TWELVE FOREIGN BODIES REQUIRING SURGICAL INTERFERENCE.

BY RUSHTON PARKER, M.B., B.S. LOND., F.R.C.S. ENG.,
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THE literature of foregn bodies is fairly abundant, being copiously epitomised in surgical handbooks, and having to itself a work of 780 pages by Dr. Alfred Poulet.[1] All these publications are instructive as references and aids to practice, but they can never be exhaustive, as from time to time isolated experiences of great curiosity and rarity, sometimes giving rise to marked ingenuity, continually come to light. Pictorial illustrations have not been wanting, though afforded in only a few of the vast host recorded.

From their nature foreign bodies have an interest which is very varied. Some are mere curiosities which may have an amusing side; others, while strange and unexpected, are chiefly notable for the little harm they have done; others again, though commonplace, are elevated into notoriety by the dangers or tragedies that result. The accompanying illustration shows a number of foreign bodies the interest of which is apparent at sight, and will, it is hoped, justify their publication.

No. 1 is part of a knife-blade, 2¼ in. long and over ¾ in. broad, broken off and embedded in the left pterygomaxillary region of a sailor. He was stabbed on a voyage from New York to Liverpool, but continued at work on board ship, having no greater inconvenience than gradual stiffening of the jaws, and closure to within half an inch, with pain on movement and some looseness of the left upper molar teeth. At the same time he felt sure that a piece of the knife remained. On arrival he was admitted into the Northern Hospital where Mr. Chauncy Pozey found a sinus, revealing metal on probing. He reopened the wound and drew out the knife, so firmly stuck as to require much force, 17 days after injury. No further harm resulted and the man left in a few days.

No. 2 is a piece of wood, 2½ × ½ × ½ in., embedded in the right pterygomaxillary region of a man who was struck below his right eye by a bundle of planks that were being hoisted during the building of a house. The wound was stitched and dressed at the Liverpool Royal Infirmary, and nearly healed. But a sinus was left, with eversion of the eyelid, for which he went to the Eye and Ear Infirmary, where probing revealed what seemed to be loose bone. He was sent back to the Royal Infirmary, where he came under my care. Finding the same loose object, I gave the house surgeon who had first dressed him the opportunity of removing it, which he did in my presence. Instead of bone he pulled out a piece of deal, of prismatic shape and the above dimensions, as clean-looking as if fresh or just washed. Healing quickly occurred and no further harm resulted.

No. 3 is also a piece of wood, very similar to No. 2 in shape and size, broken off a chrysanthemum stick which penetrated and broke off in the mouth and cheek in front of the upper jaw of a boy aged 9 years, who became thus impaled while falling in his mother's greenhouse. The object was pulled out the same day by Mr. R. T. Hughes, of Birkenhead, who asked me to see the boy with him next day in case there seemed likely to be cause for anxiety or need for special precaution. All seemed still well, and so continued without further interference.

No. 4 is a wooden meat-skewer, the pointed end of which stuck in the anus, and was removed a few hours later by Mr. C. W. Dean, of Lancaster, on exploring under chloroform. The patient had eaten some cold mutton, but had no idea that with one of the slices an inch of skewer tip had been included and swallowed. On further search in the larder another piece of the same skewer, 1½ in. long, was found in the remains of the meat. The sloping cut edges of the divided skewer fitted exactly, and on the removal of the offending piece the patient felt no further trouble.

No. 5 is the breech of a muzzle-loading gun which burst and shattered the face of a young farmer. The wound healed with no outward deformity except a fœtid sinus under the upper lip and one in each nostril. After five years a loose object was felt and thought to be necrosed bone. The nostrils were entered under the upper lip by separating the nasal cartilages from the maxillary bones, and after some difficulty the objects—a gun breech and iron bolt—were separately removed. Rapid recovery followed. The case was reported in THE LANCET of Feb. 28th, 1885 (p. 378), with a wood-cut illustration, upon which the present exact photograph is an improvement. The dimensions are 3 × 1½ × 1 in. and weight 3½ oz. The patient was brought to Liverpool by Mr. O. W. Griffith, of Pwllheli, who assisted me at the operation in private lodgings.

No 6 is a piece of parasol rib, 3. in long, of the old-fashioned round wire variety, which entered, and was broken off in, a woman's forearm, where it remained 12 days. Her husband was attacking a cat which had killed one of his pigeons, a child's parasol being the first weapon at hand. In preparing a violent lunge at the cat his back-stroke drove one of the parasol ribs into his wife's forearm instead. The rib broke at the point of entry, leaving a piece inside. The deformity produced led the case to be taken for a fracture of the forearm by the house surgeon or student who first attended to the woman at the Liverpool Royal Infirmary, and accordingly put on splints. But when the patient returned among the out-patients the nurse reserved her for my inspection. There did appear to be a bend in one of the bones, but

[1] Traité des Corps Etrangers en Chirurgie, Paris, Octave Doin, 1879.

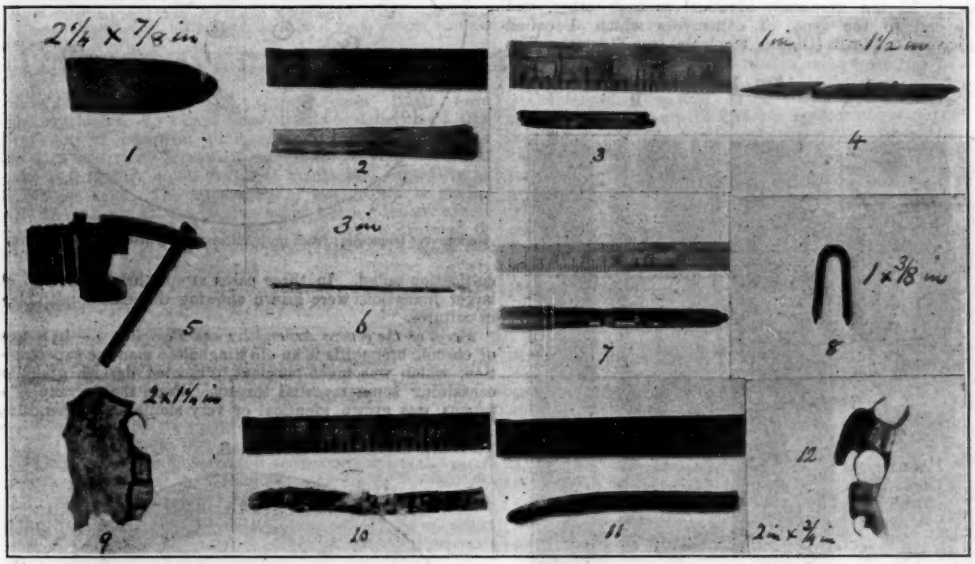
the patient's tale included the incident of the cat and the parasol rib, which was then easily felt, cut down upon, and removed without anæsthetic or further complication.

No. 7 is a remarkable specimen in a remarkable case. The object is a piece of turned oak, 7¼ in. long and from ½ to ¾ in. thick, called a "knitting sheath," used by women in some parts of the country, stuck in the girdle or apron-string as a rest for a long steel knitting needle. The blunt end of the "sheath" lies upwards, and has a hole over an inch deep in which the lower end of one needle rests to avoid wearing holes in the clothes of the knitter. A farmer, aged 70, stated that while stooping on his kitchen floor before a looking-glass trying to apply ointment to his anus with the narrow end of this stick to relieve itching, he fell over and the "sheath" entered his rectum and he could not get it out! After a fortnight's lodgment of the object he applied in the year 1888 at the Liverpool Royal Infirmary, where, with lithotomy forceps, I removed it without anæsthetic or detention of the patient. This was my first introduction to the strange, but no doubt useful, weapon here depicted.

crushed and washed away in dust and larger fragments to over 40 grains. A piece of catheter ¾ in. long was brought away in the blades of the lithotrite during the crushing. As more evidently remained, the rest, 2½ in. long, was fished up and pulled out through the urethra. The two pieces are here joined together on a wooden match.

Several instruments have been devised for the express purpose of extracting foreign bodies from the bladder by way of the urethra; but nothing seems to serve this purpose better than, or even so well as, a lithotrite, especially with smooth blades. Both French and English surgeons have found the lithotrite useful for the purpose, and in the present case no difficulty was felt.

No. 12 is a tooth plate, 2 in. long and less than an inch wide, which passed well down the œsophagus and could not be dislodged by exploring through the mouth. The case occurred in 1899 in a soldier aged 26. The plate was found to be so far down that I imagined it could be extracted through the stomach, and so the inconvenient and always dangerous œsophageal wound in the neck be avoided. But



No. 8 is an iron staple, 1 × ⅜ in., swallowed by a boy aged 9, and retained for four days, after which it was passed. Some griping was caused, and the staple was shown by X ray photography in the lower abdomen the day before issue; it was previously also identified by comparison with another specimen brought with the boy to the hospital, where he rested in the interval.

No. 9 is a tooth-plate, apparently of silver, 2 × 1¼ in., from a man aged 36, who woke up about 4 A.M. with this sticking in his throat. He came to the Liverpool Royal Infirmary in March, 1881, where I felt it with my finger in the lower part of the pharynx, and removed it with forceps through the mouth after lodgment of not more than nine hours. A drawing was made at once by Mr. J. R. L. Dixon, then a student, and the plate was restored to the patient, who put it back into his mouth and left. This illustration is a photographic reproduction of the drawing.

Nos. 10 and 11 are red rubber catheters broken off in the bladders of two elderly men suffering from prostatic retention and irritable bladder. No. 11 was found on opening the bladder by perineal urethrotomy, and requires no further remark. In No. 10 a farmer from Wales, aged 70, had four months previously broken off a piece of catheter in his bladder. It seems that seven years before he had had a stone crushed, and ever since had had to use a catheter. This he kept in his pocket and lubricated by a rough and ready method in his mouth. He came into hospital as a private patient, and I found a stone on sounding him under chloroform with a lithotrite. The stone was immediately on opening the stomach I could make nothing of it, and had to do œsophagotomy after all. The depth of its site offered no obstacle to the easy reach and removal of the plate by this route. The wounds of the stomach and abdomen healed quite simply, and that of the œsophagus granulated and healed without untoward incident. Two years later, when I happened to meet the patient, he said he had had no further trouble, and was then quite well.

Liverpool.

OBSERVATIONS ON THE FUNGI FOUND IN TROPICAL BRONCHOMYCOSIS.

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IN previous publications I have called attention to the great frequency in the tropics of bronchial affections very probably due to hyphomycetes. I have also given a clinical description of such conditions (so-called tea-factory cough, copra cough, &c.) which at times closely resemble phthisis.[1] In this paper I propose to give briefly the results of the further investigation on the fungi which I have so far isolated. The technique has been given in other papers; a precaution which is absolutely necessary to take in such

[1] Castellani: Philippine Journal or Science, 1910. Castellani: Centralblatt für Bakteriologie, 1911.

researches is to collect the expectoration in sterile bottles or Petri dishes and to inoculate the various media immediately after collection. The fungi I have so far found in cases of tropical bronchomycosis may be classified as follows. 1. Those belonging to the genus Endomyces. 2. Those belonging to the genus Saccharomyces. 3. Those belonging to the genera Aspergillus and Penicillium. 4. Those belonging to the genera Streptothrix and Actinomyces. 5. Non-determined fungi.

Fungi of the genus Endomyces.—These are in Ceylon the commonest fungi found in bronchomycosis; for the type of the disease caused by them I suggested the term "broncho-oidiosis," or "broncho-endomycosis." Microscopically in the sputum round or oval shape yeast-like cells are seen, and at times segments of mycelium. They are easily grown on the various slightly acid sugar media and also—though less abundant—on ordinary slightly alkaline agar. On sugar agars they give rise to roundish, thick, creamy-white colonies which soon coalesce. They are all *Gram-positive*, do not liquefy gelatin (21 days). In contrast to the usual endomyces albicans none of them liquefies gelatin and none of them (except three) coagulate milk. I have so far isolated 24 strains; 13 are absolutely identical to each other, and correspond to the type of endomyces which I called Endomyces tropicalis (Oidium tropicale) (see Figures). The

FIG. 1.

A B

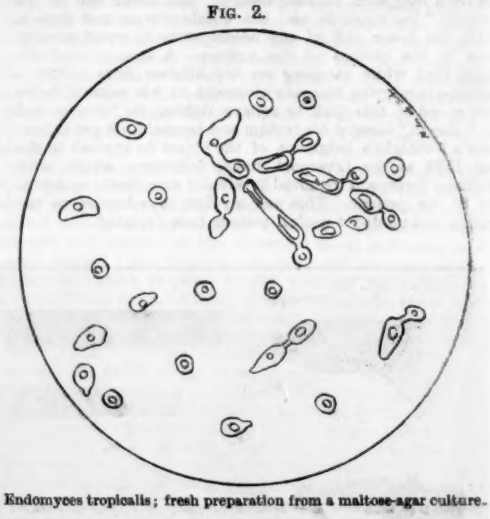
Non-determined fungus; glucose-agar culture. Endomyces tropicalis; maltose-agar culture.

remaining 11 differ from Endomyces tropicalis and differ also among one another; in fact, they are 11 different species. I at first divided these species into two groups—those affecting milk and those not affecting this medium; for the first group I proposed the term "Endomyces pseudotropicalis" and for the second "Endomyces paratropicalis." This nomenclature, however, is not correct, as the same term indicates several different species. I have therefore in this paper retained the term "Endomyces pseudotropicalis" for one species; paratropicalis for another; and I have given a name to each of the nine remaining species (see table).

Fungi of the genus Saccharomyces.—Saccharomyces were isolated from the expectoration of two cases; both strains of saccharomyces are identical and correspond to the type which I have called saccharomyces krusei. They are easily grown on acid as well as ordinary media. They are *Gram-positive*. The culture characters of saccharomyces krusei will be found in the table. Recently I have noticed that after repeated subcultures some mycelium may be observed; it is therefore probable that this fungus will have to be removed from the genus saccharomyces.

Fungi of the genera Actinomyces and Streptothrix.—In two cases of bronchomycosis dark or dark greenish actinomytic-like granules were present. On microscopical examination long, very thin mycelial filaments were seen; they were *Gram-positive* in both cases and acid-fast in one. Attempts at

FIG. 2.

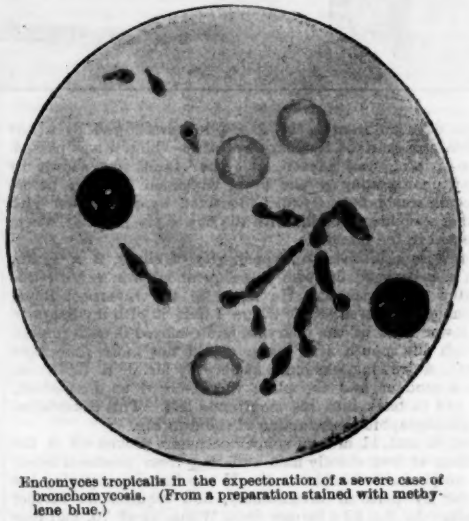


Endomyces tropicalis; fresh preparation from a maltose-agar culture.

cultivation failed. In three cases streptothrix-like fungi of larger dimensions were grown showing different appearances in cultures.

Fungi of the genera Aspergillus and Penicillium.—In a case of chronic bronchitis in an old Singhalese man the expectoration, which was muco-purulent, presented darkish granules containing some mycelial threads. From these granules a fungus was grown identical or very similar to Aspergillus

FIG. 3.



Endomyces tropicalis in the expectoration of a severe case of bronchomycosis. (From a preparation stained with methylene blue.)

fumigatus (Fresenius). In another case with the same type of expectoration a fungus presenting penicillium-like fructifications was isolated. In a third case with muco-purulent expectoration, but without dark granules, an aspergillus producing white or whitish-greenish colonies was grown.

Table Showing Cultural Characters of the Various Endomyces Isolated.

—	Litmus milk.	Glucose.	Lævulose.	Maltose.	Galactose.	Saccharose.	Lactose.	Mannite.	Dulcite.	Dextrine.	Raffinose.	Arabinose.	Adonite.	Inulin.	Broth.	Peptone water.	Indol.	Gram.	Gelatin.	Serum.
Endomyces tropicalis (Castellani)	O§	AG	AG	AG	AG¶	A¶	O	O	O	O	O	O	O	O	‡	‡	O	+	O‡‡	O
,, paratropicalis (Castellani) ...	O§	AG	AG	AG	AG	AG	O	O	O	A¶	O	O	O	O	*	†	O	+	O‡‡	O
,, pinoyi (Castellani)	O	AG	AG	O	O	O	O	O	O	O	O	O	O	O	†	‡	O	+	O‡‡	O
,, guilliermondi (Castellani)...	O‖	AG	A	A	A	AG	O	O	O	O	AG¶	O	O	O	†	†	O	+	O‡‡	O
,, negrii (Castellani)...	O‖	AG	AG	A	AG¶	AG	O	O	O	O	AG¶	O	O	A¶	†	†	O	+	O‡‡	O
,, niveus (Castellani)	O§	AG	AG	AG	AG¶	AG	O	O	O	O	AG¶	O	O	O	†	‡	O	+	O	O
,, candidus (Castellani)	O§	AG¶	AG¶	A	A	A¶	O	O	O	O	AG¶	O	O	O	*	‡	O	+	O	O
,, insolitus (Castellani)	O§	AG	AG	AG	AG	AG	O	A	O	O	O	O	A	O	†	†	O	+	O‡‡	OB
,, pseudotropicalis (Castellani)	AC	AG	AG	O	AG¶	AG	AG	O	O	O	O?	O	O	O	‡	‡	O	+	O‡‡	O
,, lacticolor (Castellani)	††	AG	AG	AG	AG¶	O	O	O	O	O	O	O	O	O	†	‡	O	+	O‡‡	O
,, nitidus (Castellani)	DC**	AG	AG	A	A	A	A	O	A	A	A	O	O	O	*	†	O	+	O‡‡	O
,, lacteus (Castellani)	AC	AG	AG	AG	AG¶	AG¶	A	O	O	O	AG¶	O	O	O	†	†	O	+	O	O
Saccharomyces ruscl (Castellani)... ...	O	AG	AG	O	O	O	O	O	O	O	O	O	O	O	‡	‡	O	+	O‡‡	O

Abbreviations used in the table:—A, Production of acid. B, The growth and medium surrounding slightly brown. G, Production of gas. O, Negative result—viz., neither acid nor clot in milk, neither acid nor gas in sugar media, or non-liquefaction of gelatin or serum, as the case may be.

* Clear, thin pellicle. † Clear, good bottom growth, no pellicle. ‡ Practically no growth. § If any change, slightly alkaline. ‖ Alkaline in seven days. ¶ Trace only. ** Decolourised; clot in five days. †† Alkaline, then peptonisation. ‡‡ Non-liquefied, three weeks.

Non-determined fungi.—In several cases fungi were isolated which so far I have been unable to determine. One gives rise to beautiful pink-coloured colonies. Another found in two cases somewhat resembles an endomyces; it grows very rapidly on all the usual media, and especially so on glucose agar. The appearance of the growth is practically the same in all the various sugar agars; the growth is abundant, of a yellowish colour, the surface convoluted or crinkled. (See Fig. 1, A.) Fresh preparations from the cultures show a large amount of long, regular, septate mycelial threads 2–3 microns in breadth and numerous free roundish spores.

Conclusions.—The fungi so far observed in Ceylon in cases of bronchomycosis are 12 different species of endomyces, the commonest being Endomyces tropicalis, Saccharomyces krusei, various strains of Actinomyces and Streptothrix, fungi of the genera Aspergillus and Penicillium, and several other fungi which so far I have not determined. As regards the pathogenicity of the fungi found it would seem from some researches I have carried out that the pathogenicity of Endomyces tropicalis and of the fungi of the genera Aspergillus, Penicillium, Streptothrix, and Actinomyces is practically certain.

Colombo, Ceylon.

THEORY AND PRACTICE IN THE TREATMENT OF GLAUCOMA.

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IN 1856 Albrecht von Graefe, then a young teacher in the Berlin University, only 28 years old, introduced the operation of iridectomy for the relief of glaucoma. "For thousands of years hosts of sufferers from glaucoma sank without relief into the night of blindness; by the introduction of iridectomy A. von Graefe pointed out the way whereby their vision might be retained. Had he accomplished nothing more he would by this one act have merited the crown of immortality and a place in the little band of heroes who are the benefactors, not of a nation alone, but of all mankind." These eloquent words, written more than 30 years ago by Professor Schmidt-Rimpler, would be endorsed by every ophthalmologist to-day. None the less, the battle is not yet won, for to-day, too, thousands of sufferers from glaucoma drift into the night of darkness, not, it is true, wholly unrelieved, but often, unhappily, with a relief which is but a postponement of the inevitable end.

Glaucoma, in the broad use of the term, is the condition of pathologically increased intraocular tension. Two great groups of cases may be distinguished: those in which increased tension is the result of inflammatory changes occurring in the ciliary body, and those in which there is no evidence of primary inflammatory change in any part of the eye. It is well to reserve the term glaucoma, in its narrower sense, for the latter group. The pathology of these cases is quite different, and it is amongst them that iridectomy and cognate operations are most clearly indicated.

This group again is broadly subdivided into two subgroups—primary acute and chronic glaucoma. The former is characterised by sudden onset, great increase of tension, intense vascular congestion, and severe pain; the latter by insidious onset, slow progress, intermittent and often scarcely appreciable increase of tension, absence of marked vascular congestion, and freedom from pain. In the former the vision fails very rapidly; in the latter very slowly. The difference between the two classes is so marked that they might almost be considered different diseases. They have this point of contact, however, in that the chronic cases are subject to exacerbations in which the tension is suddenly raised and the case assumes all the characteristics of a primary acute glaucoma. Primary acute glaucoma is remarkably amenable to operative treatment by iridectomy. The effect is little short of magical; tension and pain are relieved immediately, and if the operation is performed sufficiently early vision is rapidly restored. In chronic glaucoma, on the other hand, iridectomy often fails to stay the progress of the disease. It is by the brilliant results of iridectomy in primary acute glaucoma that von Graefe is still held to merit that crown of immortality which he wears as the benefactor of mankind.

Without the wish to dim the lustre of a single jewel in von Graefe's crown it should be salutary to human intellectual arrogance to note that in the discovery of the cure of primary acute glaucoma by iridectomy theory and practice did not march hand in hand. Von Graefe, with that extraordinary clinical insight which distinguished him more than any other ophthalmologist of the day, with the exception of Mackenzie, had noticed the diminution of intraocular tension following iridectomy in cases of partial anterior staphyloma, corneal ulcer, and so on. He was of opinion that experimental researches on animals supported the view that excision of a broad piece of iris permanently diminished the tension of even the normal eye. Subsequent experiments by more delicate methods do not support this view, and it must be conceded that iridectomy for glaucoma was founded upon deductions from false premises. So notable an example may well instil caution in the acceptance of even the most plausible theories, particularly in biological questions, the complexities of which preclude the accuracy characteristic of physical and mathematical problems. Rather as seekers after truth, then, than as captious critics, let us consider the current theories of intraocular tension, normal and

pathological, in their bearing upon the treatment of chronic glaucoma.

The generally received theory of the normal intraocular pressure, which amounts to about 25 mm. of mercury above the surrounding atmospheric pressure, is as follows. In order that the tension of the eye may be maintained at this raised pressure work must be done, and it is evident that the source of energy must be the blood pressure. This deduction is proved true by the fact that in experiments on animals the intraocular pressure follows passively every change in the general blood pressure. The walls of the globe are kept stretched by the fluid constituent of the contents, which fills the anterior and posterior chambers and permeates the vitreous. This fluid is comparable to the lymph which bathes the tissues in other parts of the body. The generally received view is that it *is* the lymph of the eye. In other parts of the body the chief function of the lymph is to carry food material to the tissue cells, and to carry away the effete products of the cell metabolism. It has a further function of keeping up the normal tissue tension. Both these functions are of unusual importance in the case of the eye. Owing to the nutritional function of the lymph it is not sufficient that the internal pressure should be kept up by stagnant fluid. Owing to the necessity of keeping the pressure constant within the limits of very small variations the amount of fluid must be similarly nearly constant. The lymph is therefore being constantly renewed and as constantly equally removed.

The physical conditions of the formation of lymph in other parts of the body are consistent with its production by a process of filtration out of the capillaries; the amount poured out and its chemical composition are dependent upon the difference of pressure on the two sides of the filtering membrane—i.e., the capillary wall. The difference of pressure is less in the eye than elsewhere; hence the amount of lymph secreted in a given time is small and its chemical composition differs materially from that of lymph elsewhere. As regards the rate of production, it probably takes nearly an hour for the aqueous in the anterior chamber to be renewed; as regards its composition, the large moleculed proteids of the blood plasma are kept back and the lymph is little more than a saline transudate. Experiments show that the ciliary body is specially differentiated for the production of the lymph which nourishes the vitreous body and lens and on which the intraocular tension depends. The other structures of the eye produce only sufficient lymph for their own nutritional and tissue tension requirements.

The removal of lymph from the eye is the function of the canal of Schlemm, with the exception of a very small portion which passes back through the vitreous and is removed by the perivascular lymph channels of the central vessels of the retina.

Such, in brief, is the most widely accepted view of the normal intraocular tension. Upon this theory is built the retention theory of glaucoma—viz., that the increased tension of glaucoma is caused by the retention of an excess of lymph within the eye. Owing to obstruction at the angle of the anterior chamber the path of the fluid from the anterior chamber to the canal of Schlemm is blocked and the tension of the eye rises. The explanation of the efficacy of iridectomy is that the operation opens up the filtration angle and thus restores communication with the canal of Schlemm.[1] Iridectomy in chronic glaucoma is held to fail because the obstruction at the filtration angle is due to firm fibrous adhesion of the root of the iris to the corneo-sclera and the operation fails to restore permeability of these tissues. The aim, therefore, of most surgeons who have attempted to find out a better way has been to establish a permeable path for the fluid into the subconjunctival tissues, where absorption into the blood stream can easily occur.

Not infrequently the operation of iridectomy for glaucoma has been attended by the incarceration of a small portion of the iris in one angle of the wound. In such cases the scar is weak in this situation and subsequently bulges, so that a so-called cystoid cicatrix forms. Although a weak scar of this nature has several grave disadvantages and dangers, it has been found that the effect of the operation on the progress of the glaucoma has been much better than when an apparently more perfect surgical result is obtained. This effect has been so striking that in spite of the dangers of late infection, sympathetic ophthalmia, and so on, a deliberate effort has been made to produce a cystoid cicatrix, as in Lieutenant-Colonel H. Herbert's earlier work on the operative treatment of glaucoma in Bombay. The efficacy of the cystoid cicatrix is attributed to the weakening of the ocular wall at this spot and the possibility of permeation of the loose cicatricial tissue by the intraocular fluid.

In other cases the iridectomy wound has not healed firmly, although no incarceration of iris occurred. The subconjunctival tissue over the wound has been swollen and œdematous and has remained in this condition for an indefinite period. Such cases have also done unexpectedly well from the point of view of the relief of glaucomatous symptoms. The explanation again has been that the weak scar permitted the permeation of the intraocular fluid, and such scars have been termed "filtering cicatrices."

In this case again the effect has been so striking as to have appealed very strongly to surgeons of wide experience, so that over and over again attempts have been made to elaborate some method of ensuring the formation of a filtering cicatrix in this operation. Such are the "small wedge operation" of Lieutenant-Colonel Herbert and the modified iridectomy operation of Lagrange. Others have relinquished the iridectomy and aimed direct at the development of a filtering cicatrix without adventitious aid. Such are the trephine operation of Major R. H. Elliott and the "small flap operation" of Lieutenant-Colonel Herbert.

Now, these operations have given satisfaction in direct proportion to their success in producing the object aimed at—viz., the provision of a channel permeable to the intraocular fluid. When that object has been attained the ameliorative effect upon the progress of the disease has also followed. Of course, in such cases there is great danger of reasoning in a circle and attributing success or failure to the wrong cause. But so far as they go they support the view that the establishment of a filtering cicatrix is a cure for chronic glaucoma, or, at any rate, as much a cure as iridectomy is for primary acute glaucoma.

Here, however, the antinomian spirit—that spirit, be it remembered, which is responsible for so much of the advance of science—steps in and denies *in toto* the efficacy of the filtering cicatrix on theoretical grounds. "The theory of 'filtering cicatrices' rests on the assumption that the aqueous outflow is a filtration. ..... Now, the bases of the volumetric and of the circulatory conceptions of the intraocular pressure are as diametrically opposed as the two poles, and, therefore, while admittedly the theory of 'filtering cicatrices' is perfectly logical with the former premises, it is equally illogical with the latter."[2] What, then, is the "circulatory conception" of the intraocular pressure? It is that: "1. The intraocular pressure is vascular in origin and nature, and stands and varies with intraocular venous pressure. 2. The intraocular pressure is influenced directly and absolutely by a rise in general venous pressure, but only relatively by increase in arterial pressure. 3. The intraocular volume is a fixed quantity. 4. The corneo-scleral envelope represents a rigid case."[3] It will be seen that the primary assumption is that the walls of the globe form a rigid case like the skull, and that, therefore, the whole of Dr. Leonard Hill's work on the cerebral circulation can be applied directly to the intraocular circulation.

Dr. Thomson Henderson's arguments in favour of the view that the walls of the eye are rigid consist chiefly in criticisms of my own writings.[4] That I should have been guilty of the common error of using the word "elasticity" in the colloquial and not in the strictly accurate scientific manner is of little moment. Moreover, it is easy by separating phrases from their context to gather together apparent paradoxes. I have stated that "the globe of the eye is practically rigid," and for slight variations of intraocular pressure the statement is undoubtedly true, and is consonant with the statement that "the stretching under normal physiological pressure is minimal." I do not regard it as

[1] It is necessary to be very precise in one's language on this point. Dr. Thomson Henderson's criticism of my remark that the object of the peripheral incision in iridectomy for glaucoma, as well as the aim of sclerotomy, is to open up the filtration angle and canal of Schlemm, is that "such procedure, if successful, would merely result in phlebotomy, with certainly most undesirable consequences." (Thomson Henderson, Glaucoma, London, Edward Arnold, 1910, p. 202.)

[2] Thomson Henderson, loc. cit., p. 205.

[3] Loc. cit., p. 89.

[4] Parsons: The Pathology of the Eye, vol. iii. London: Hodder and Stoughton.

"flat contradiction" to say that "unlike the cranium, however, the eyeball is not a rigid case," and that the stretching is "quite an appreciable amount," even when the intraocular pressure is raised from 19 mm. to 70 mm. Hg. The last statement is based upon reliable experimental observations by Koster. Dr. Henderson brings forward no evidence whatever to controvert these statements, and we must therefore conclude that, though within the range of physiological pressures, the walls of the globe may be regarded as practically a rigid case, beyond that range deformation occurs which must be taken into account if accurate deductions are to be made.

So far then as variations within the limited range of physiological pressures are concerned Dr. Henderson's working model of the circulatory mechanism of the intraocular pressure has exactly the same value that a good diagram has and no more. Those who have had experience in biological experiments will appreciate the dangers of mechanical working models. They have their use in illustrating proved facts; it is unwise to misuse them to prove disputed points. Within the narrow range of pressures in which the eyeball may be regarded as rigid the general application of Dr. Hill's researches may be freely admitted. Even they, however, should not be pressed too far. To take a simple example, his experiments tend to prove that vaso-motor changes cannot occur within the cranium. Delicate as were the experiments they appear to me to be far too coarse to prove such a point. As the late Professor Michael Foster said of experiments on cerebral localisation, "they are like playing the piano with a broomstick." Now there is plenty of evidence, clinical and experimental, to prove that vaso-motor changes occur in the retinal vessels within the normal range of intraocular pressures, yet Dr. Hill's experimental observations are equally potent in their allotted sphere. Under the conditions named the general features of the intraocular pressure are doubtless the same as those of the intracranial pressure, but only direct experiments on the eye can demonstrate what modifications in detail may be present. Beyond the given range one fact alone suffices to show that the conditions are quite dissimilar. When the animal is killed the intracranial pressure promptly sinks to zero; not so, however, the intra-ocular pressure, which, under these circumstances or when the eye is excised, only reaches zero after a prolonged period—in fact, after fluid has filtered out.

With regard to the production of aqueous Dr. Henderson adopts the secretory view in common with many who hold what he calls the "volumetric" theory. They, however, do not go so far as to say that "mechanical filtration is impossible." It is difficult to understand what he means when he says that "there can be no difference in hydrostatic level on either side of the filtering membrane." The filtering membrane is the capillary wall, and whatever may be the reason why the fluid passes into the posterior chamber and not into the suprachoroidal space, it is certain that the intracapillary pressure is greater than the extracapillary—i.e., the intraocular—pressure, and therefore the filtration factor must come into play. Resorption of aqueous is regarded as a pure diffusion into the veins, particularly the canal of Schlemm and the veins of the iris. Dr. Henderson believes that many of the ciliary vessels which have been described as arteries are really veins.

On the assumption that even under pathological conditions of increased tension the walls of the eye are still a rigid case, the explanation of glaucoma is held to be due, not to a "retention of intraocular volume," but to a "retention of intraocular pressure." The language is cryptic, but taken with the context the meaning is clear. On blocking the venous exits—canal of Schlemm by sclerosis of the ligamentum pectinatum and anterior ciliary veins by peripheral anterior synechia—the elastic blood-vessels are transformed into a rigid system of tubes. In such a system the outflow pressure is always higher than in a similar system of elastic tubes; hence in glaucoma the lowest circulatory pressure is that in a rigid system, and therefore the intraocular pressure is maintained at a correspondingly high level. The observations on sclerosis of the ligamentum pectinatum agree with those of other pathologists. Resorption of aqueous is reduced to the area of the iris veins. The aqueous is therefore not entirely cut off from the veins; the aqueous volume is displaced by increase of total vascular volume, so that the anterior chamber becomes shallow. The explanations of the dilatation of the pupil, haziness of the cornea, occlusion of the angle of the anterior chamber, and so on, are very ingenious, but are open to criticism in many respects.

The efficacy of iridectomy in glaucoma is attributed to the free opening up of access to the iris veins. This is facilitated by the fact that wounds of the iris do not undergo cicatrisation like other wounds, and consequently the aqueous is brought into contact with the vessels of the iris throughout the length of both edges of the coloboma.

That the hydrostatic principles underlying Dr. Henderson's theory have to be taken into account needs no proof, and he has done great service in forcing them vigorously upon the attention of ophthalmologists. That there are conditions, normal and pathological, in which they play a preponderant rôle may equally be admitted. That they alone can be held to account for the pathogenesis of glaucoma is a view unlikely to commend itself to most pathologists, who will still hold that the major variations in the intraocular pressure are brought about by actual variations in the fluid contents of the globe. Further research will probably show that the two theories are not so inconsistent as Dr. Henderson would have us believe.

There yet remains an operation for chronic glaucoma which has not been considered—cyclodialysis. By this means Dr. Heine attempted to provide an exit of the intraocular fluid by way of the suprachoroidal space. It appears to be satisfactory so long as the artificial detachment of the ciliary body from the sclerotic persists, but fibrous reunion occurs and the intraocular tension again rises. According to Dr. Henderson there is normally free passage of aqueous from the anterior chamber into the suprachoroidal space; his evidence, however, is not convincing. Dr. A. Freeland Fergus combines the operation of trephining with cyclodialysis.

In conclusion, if the criticisms put forward here are just, the formation of a filtering cicatrix holds out the best hope of alleviating chronic glaucoma.

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LYMPHATIC VARICOCELE.

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WE have recently operated on three cases presenting the usual clinical signs and symptoms of varicocele, but have found that the swelling was due to the presence of tortuous coils of very thin-walled, dilated lymphatics in the substance of the spermatic cord. This condition is, in all probability, a manifestation of filariasis, though we have not succeeded in finding filarial embryos in the blood—a fact that proves nothing of itself, but it would have been a source of satisfaction to have had confirmation of our thesis.

Our attention was first drawn to the condition I wish to describe whilst operating on a case which had been operated on a few months before for varicocele. A very temporary relief had followed the first operation, but the swelling had returned in a more severe degree shortly afterwards. At the second operation we found that the varicocele had been completely cured—if, indeed, it had ever existed; but we were surprised to find masses of thin, translucent, dilated lymphatics extending along the whole length of the cord. The affected lymphatics were excised, and so far there has been no recurrence, though, if the enlargement is due to a compensatory dilatation to provide a collateral circulation around a blocked lymphatic trunk in the pelvis or lower abdomen, the permanency of the cure is very uncertain.

The following case brings out the main points of the condition and its liability to recur, and may be taken as a type.

The patient, aged 20, was admitted to Kasr-el-Ainy Hospital on Sept. 10th, 1911, complaining of pain in the right side of the scrotum. He had been suffering from this pain for the last five years, especially after prolonged standing or walking, and it was gradually increasing in severity. There was no history of fever or any other previous disease, either in the scrotum or elsewhere, and the urine was clear, with specific gravity 1022, acid in reaction, and entirely

free of albumin, sugar, or other abnormal constituent. No filarial embryos were found in his blood. He had been operated on in February, 1911, by my colleague, Dr. Aly Ibrahim, for hernia and varicocele, but the veins were not enlarged, and running with the hernial sac was a "cystic enlargement of the cord extending as far as the external ring. The thickening consisted of separate cystic enlargements, each of which was constricted at certain points, as though valves were present in the course of the dilated vessels." The true nature of the enlargement was not then recognised, but the cystic dilatations were excised between ligatures, and the radical operation for hernia was completed.

Very soon after this operation the swelling of the cord returned, and this was thought to be a thrombosis of the veins of the cord which would probably gradually subside. The swelling, however, remained stationary, and on re-admission to hospital the enlargement very closely resembled varicocele, even giving a faint impulse on coughing, and diminishing in size on lying down and refilling on standing.

A second operation was performed. Under stovaine anæsthesia the old scar was resected, and the entire length of the cord was exposed from the external ring to the testis. The swelling was then seen to consist of a large number of coils of dilated lymphatics having a sacculated appearance, like sausage-skins of very small calibre, and distended with clear lymph. These coils completely surrounded the other constituents of the cord and extended into the abdomen. The veins were not affected. The mass of lymphatics was removed between ligatures above and below, and the operation was completed as though the mass had consisted of dilated veins. The scrotum was stitched up vertically in its upper part and transversely below to shorten the pendulous scrotum. After removal it was seen that the lymphatics formed long coiled tubes, held lightly together at some points by loose connective tissue. The subsequent history of the case was uneventful, and the enlargement has not yet returned.

This condition adds yet another to the already lengthy list of possibilities in the scrotum, and if it is a filarial manifestation, which it almost certainly is, it is further of interest on account of its restricted distribution. I do not remember to have read any report of filarial lymphatic dilatation strictly limited to the lymphatics of the spermatic cord, without any implication of the scrotum, either superficial or deep.

I am much indebted to Dr. Abd-el-Fataah, resident surgical officer, for the notes of this case.

Note.—In operating on hernia and varicocele one not infrequently finds thick, white, tenacious masses of coagulated lymph in and around the spermatic cord, very similar to the more organised lymphy tissue which has to be stripped off the cords in the operation for elephantiasis of the scrotum. This is probably due to exudation of lymph from increased lymph pressure in the lymphatics of the cord and surrounding connective tissue, and is not necessarily filarial at all. It is quite different from the condition above described and no appreciable dilatation of lymphatics is present.

Cairo.

SOME OBSERVATIONS ON

THE PREVENTION OF TUBERCULOSIS.

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GENERALLY speaking, the healthy individual is an asset to the community, while the diseased are liable to be a burden. It would, therefore, seem to be to the advantage of the community to *prevent* disease. The treatment of disease is often quite a different matter. Once a disease, such as tuberculosis, effects an entry into the system, not only may the individual be completely incapacitated for work, but *curing* the disease is problematical, even with the aid of lavish expenditure. The extreme tenacity with which disease germs keep hold of their host once they have gained an entrance into it was well brought out in a recent address by Sir Hector Cameron,[1] but this fact is well known, and further reference to it is unnecessary here.

In days gone past the difficulty of expense in treatment was no doubt got over by the victim of such diseases entering an early grave; but it being impossible to countenance such a course of events now, we must consider whether it would not be profitable to direct more attention to prevention. It is particularly necessary to do so because the incubus of taxation for the treatment of tuberculosis and other diseases probably is a fruitful cause of tuberculosis and many other diseases.

There are two principal ways in which tuberculosis may be prevented: (1) The environment of the individual may be kept free, relatively at least, from germs which are liable to cause the disease; (2) the individual may be kept sufficiently healthy to resist the effective entrance of disease germs. That the first method is important, especially in the more infectious diseases, is of course recognised. In the case of tuberculosis it is not so obvious, but that it is so is noticeable when the question is gone into completely.[2] I do not intend, however, to deal with this part of the subject. It is to the possibility of more effectually keeping the body sufficiently fit to be able to resist the tubercle bacilli that I intend to direct attention, because the recommendations about to be made are as yet relatively unknown.

The two chief routes of entry of the tubercle bacilli into the system appear to be *viâ* the alimentary canal and the faucial and pharyngeal tonsils. With regard to entrance *viâ* the alimentary canal, we know that *in a healthy state* entrance in this way is hardly to be expected, and, as a matter of fact, though all people must swallow living tubercle bacilli many times during their life—perhaps, indeed, many times during each day—yet the tubercle bacilli do not by any means always gain effective entrance into the system.

In the past—attention being directed exclusively to the consideration of the nutritive values, the number of "calories," the rapidity of digestion, the assimilability of the food, &c.—no real consideration seems to have been given to a most important, perhaps the most important, principle of dietetics—viz., the principle which claims that the meals should be so arranged that the mouth and alimentary canal shall be left in a hygienic state at the end of each meal.

With regard to the mouth, it may be said that but few could indicate with the slightest degree of accuracy the nature of the foods which tend to leave the mouth in a hygienic state. Yet this is the beginning of the trouble; for if the mouth is, generally speaking, in an unhygienic state after meals—as it, indeed, very generally is—then what chance has the stomach and alimentary canal to be free from injury from the constant swallowing of septic matter, polluted food, or decomposing food remains. Furthermore, if the mouth is left in an unhygienic state, what chance have the teeth of remaining free from caries or the gums from being injured between the teeth by the more or less constant lodgment of fermenting food.

We now know that dental diseases are, in general, neither hereditary nor constitutional, but that they are the result of habitual dietetic error. The dietetic error which brings on dental troubles has little or nothing to do with the question as to whether the food is nutritious or not. The point of importance is whether the food leaves the mouth in a hygienic state at the end of the meal or otherwise. It is not my intention to consider which foods are cleansing to the mouth and teeth and which are not. Here it must simply suffice to say that those physicians who have really considered the subject now recognise that soft milk-soaked foods do not keep the mouth in a hygienic state, and moreover some note the probability that these foods are neither directly nor indirectly conducive to the hygiene of the alimentary canal. Thus, Dr. G. A. Sutherland, when referring to the preventive treatment of tubercular peritonitis, says that "the real risk lies in an unhealthy condition of the alimentary canal which may allow the penetration of the bacilli." He urges the wisdom of a type of diet requiring mastication such as would tend to keep the alimentary canal in a healthy state, and comments on the feeding of children with tubercular tendencies on "a sloppy diet—milk, bread and milk, and pudding." He says: "Experience has shown that this is the worst possible form of treatment."[3]

Further comment on the system of feeding which keeps the mouth and alimentary canal in an unhygienic state is not

[1] The Persistence of Disease Germs in the Human Body, Brit. Med Jour., 1911, vol. i., p. 973.

[2] Newsholme: Prevention of Tuberculosis.

[3] The Treatment of Diseases in Children, p. 110.

necessary. It behoves those who would lend a helping hand in the prevention of tuberculosis to become acquainted with the more recent views on diet from the point of view of oral and alimentary hygiene, lest they may help to continue "the worst possible" system of feeding children.

The other important mode of entry of the tubercle bacilli is *vid* the pharyngeal and faucial tonsils when these are in a diseased state. This is, perhaps, the commonest way in which these micro-organisms enter the system. An interesting investigation of Dr. H. Osborne[4] shows how very constantly diseased lymphatic glands are associated with pathological hypertrophy of the pharyngeal and faucial tonsils. That "infecting organisms may obtain access more readily by way of enlarged tonsils and adenoids than through the healthy nose and throat" can hardly be doubted. It is consequently of great importance in the prevention of tuberculosis that the causes of adenoids and enlarged tonsils should be recognised and combated.

It is not my intention to enter into the question of causation fully; all that I would do at present is to recall the well-known fact that adenoids are more frequent in cold and damp localities, and in a short investigation which I made a few years ago it transpired that of 49 children who were brought up on the open-window principle in all weathers (whether cold and damp or otherwise), 22 of these children developed adenoids to such an extent that they had to be operated on. While, on the other hand, of 69 children of a similar class, who had been brought up with the windows of their bedrooms shut at night, only two cases of adenoids were noted.

It may here be observed that the liability to catarrhal troubles of the naso-pharynx, or at least to adenoids, resulting from a strict adherence to the open-window system of ventilation in cold and damp nights is generally admitted now by those few laryngologists who have been persuaded to look into this subject. And it might be well also to say that those medical men who still advocate the open window at night, in all weathers and under all circumstances, should bring forward statistics to justify their recommendations. At present, as regards adenoids, there do not seem to be any statistics whatever to justify the attitude which they take up; and, moreover, the fact that during recent years pneumonia has come to account for a greater number of deaths than any other disease whatsoever indicates most emphatically that care should be exercised before recommending or enforcing a procedure having no statistical evidence to support it, which is contra-indicated both by instinct and by reason.

But recognising that there is difference of opinion on this important point, it is evident that we must have this question as to the causation of adenoids definitely settled. It is a very easy investigation to those who have the opportunity of seeing numerous school children. It does not require a laboratory or expensive equipment, and yet this simple investigation will, I have no doubt, prove to the medical world—as it has done to those who have already looked into the subject—that adenoids are easily preventable in nine cases out of ten. There are, of course, other cogent reasons for insisting on the elucidation of the causation of adenoids. The sequelæ are often disastrous when the patient lives; moreover, the operation for the removal is not always productive of very satisfactory results as regards breathing, while the risk of death during or immediately after the operation is fairly well recognised.

Now, if we recognise the fact that there has been a general diminution in tuberculosis due to cheap food, better housing, smaller families, and improved sanitation, we must also recognise that increased taxation, for the sake of State *treatment*, leaves less money for the individual to spend on food, clothing, medical attendance, and proper housing accommodation.

Only a few hundreds of those treated in sanatoriums are physically rehabilitated so that they become useful members of the community; on the other hand, there are tens of thousands, nay, several millions, who can ill afford the money required by the tax-gatherers. There is, indeed, but a mere handful the taxation of whom would be beneficial for themselves and the community. Nor is it evident that, even though taxation were limited to the rich, the tax would not ultimately really fall upon those who could not afford it without denying themselves the comforts which are conducive to health.

It must not be thought, moreover, that it is only the very poor who would feel the pinch. Here, for example, are some statistics culled from Mr. Culpin's report on overcrowding and child development:—

Boys from 15 to 18 years of age living in—	4-roomed houses weigh on the average	64·3 lb.
	3- " " " " "	60·6 "
	2- " " " " "	56·1 "
	1- " " " " "	52·6 "

The average difference in weight of boys living in 1-, 2-, 3-, and 4-roomed houses is roughly 4 lb. for each additional room, and the height of such boys is correspondingly more for each additional room. We find that a boy living in a one-room tenement is 4·7 in. shorter and 11·7 lb. lighter than one from a four-roomed house. It is evident, therefore, that it is not only those who live in a one-, two-, or even three-roomed house who will suffer from increased taxation for the treatment of disease. Statistics similarly show that tuberculosis is more prevalent the smaller and more overcrowded the house.

The most rational, economical, and just system is for the State to do what seems necessary to prevent disease; everyone would participate in the benefit. The expense of the treatment of the individual should fall on the individual or those responsible. Of course, as a matter of charity the individual sufferer would in the future, as in the past, be liberally aided by those who voluntarily contribute for the relief of suffering, even though such suffering be the result of his own negligence or misdeeds.

Another aspect of the subject demands the most careful consideration. It would appear that there was a marked decrease in the mortality from phthisis from 1850 to 1894, since which time it has ceased to decrease so rapidly, or, to put it in Professor Karl Pearson's words:—

> The death-rate from phthisis during our period of supposed greatest knowledge, and during the time of our most active campaign against tuberculosis, has ceased to be reduced at the old rate. There is actually a slackening in the rate of fall. Increased knowledge and increased medical activity have not been associated with that acceleration in the fall of the phthisical death-rate which we should have anticipated.

Professor Pearson's *statistics* must be considered, and the sooner the better. They seem to me to emphasise the points which I have drawn attention to at the beginning of this paper. We need not be disheartened by his *inferences*; for by overlooking the fact that age and environment bring about a certain immunity to tuberculosis he has obviously been led into error.

Professor Pearson's charts, however, showing the rapid decline in mortality until recent years are worthy of consideration. To many they will be startling, but there is, indeed, nothing very surprising in them to those who recognise that the welfare of children has been most seriously compromised by the current unhygienic system of feeding them, together with the unhygienic state of the mouth and alimentary canal which has resulted therefrom. Still less will his statistics cause surprise among those who recognise also that adenoids and diseased tonsils are common roads of entrance to the tubercle bacilli.

Let us, however, leave out of account considerations with regard to the causation of adenoids, upon which subject there is still marked difference of opinion. Let us consider solely the fact that about 40 per cent. of children suffer from "extensive and injurious decay of teeth,"[5] and that dental caries "must be considered as an outward and visible sign of methods of living which produce other and still greater harm."[6]

Surely, when we consider such facts it is obvious that if the medical profession would help in the costless campaign against such methods of living, which cause such disastrous results, it would confer an even greater benefaction on humanity than it has as yet been able to do, for if instead of advocating the "worst possible" it were to introduce the hygienic—the obviously physiologically correct system—an untold amount of suffering and disease would assuredly be prevented.

Harley-street, W.

[4] Brit' Med. Jour., Jan. 14th, 1911.

[5] Sir George Newman: Report of the Chief Medical Officer of Board of Education.

[6] The Prevention of Dental Caries, James Wheatley, M.D. Lond., D.P.H., School Medical Officer, Salop County Council.

A NEW METHOD OF COUNTING LEUCOCYTES.

BY R. A. P. HILL, M.B. CANTAB., D.P.H.

THE advantage of the method here described is that a total and differential count may be done simultaneously, the whole process taking about ten minutes or less. The only apparatus needed besides the usual Thoma pipette and slide is a small cylindrical tube graduated and corked. The tube of a Haldane's hæmoglobinometer cut down to the level of the 120 mark is very convenient. Liquor potassæ will clean it after use. The diluent must be made up at the time. Its composition is: Distilled water, 12 parts; acetone, 3 parts; methyl alcohol, 1 part; and Wright's modification of Leishman's stain, 4 parts.

This reagent is used as the diluent for the blood in any dilutions from 1 in 200 to 1 in 10. The red cells become almost invisible, the leucocytes stain just as they do in a film, and can be distinguished without the least difficulty. A dilution of 1 in 100 will give some 80 cells on the big square of a Thoma-Zappert slide, which is quite a large enough number to give an accurate total count, and there is no difficulty in finding 300 cells in other parts of the field for the differential. In marked leucopenia a 1 in 10 dilution enables one to find as many cells as are needed in a few minutes. There is no overstaining or precipitation in the course of two hours; there is no difficulty arising from unequal distribution or distortion or bad staining, such as one meets with in film preparations, especially if made on a slide, and in many cases one glance is enough to reveal the condition—as, for instance, a marked eosinophilia, or excess of lymphocytes, large mononuclears or polymorphic cells.

The stain will keep for several hours if corked, but it is best to prepare just enough for use each time; that is the purpose of the small cylinder. With a hæmoglobinometer tube 24 divisions of water and the rest in proportion is enough for a 1 in 100 pipette if it can reach to the bottom.

Besides the absolute cleanliness and the purity of reagents necessary for all blood work, three precautions must be observed.

1. *The Wright's stain must be filtered. It is best to do this at the time of making it up.* I grind up a tabloid with 10 c.c. of methyl alcohol and filter. About 3 c.c. are lost by evaporation, so I grind up the residue in the mortar with another 5 or 6 c.c. of alcohol and pour it through the filter till 10 c.c. have come through. I keep the same filter paper for months, so that the solution is saturated. If now 2½ c.c. of methyl alcohol are added direct to the filtered stain there is no need to add it separately in making up the diluent fluid; instead one can add 5 parts of this diluted stain after the acetone. This dilution in no way impairs its utility for staining films, but is in some ways an advantage, as one need not trouble to prevent evaporation, since it does not so easily precipitate. If well corked it appears to keep for a long time.

2. *The mixture must be very well shaken.* If this is not done a froth will form in the bulb of the pipette.

3. The various operations of mixing and putting the drop on the slide must be done with promptness; especially must the drop be covered as soon as possible, as the cells settle quickly and the acetone evaporates readily. For this reason I imagine a counting chamber with an air inlet would not be very suitable.

If these precautions are observed the method is both simple and satisfactory. The cells are best seen with the flat mirror and when the condenser is screwed down and the diaphragm half closed. A thin cover-slip and high magnification may be used.

I have tried to preserve the red cells for counting also with various modifications of reagent and method, but so far without any success. As the acetone evaporates they become visible, but this is not till after a long while, and they appear to be in clumps. All the methods I have yet tried have resulted either in clusters of red cells or diffuse staining of the leucocytes. It would obviously be a great advantage if a red, white, and differential count could all be done in one operation.

This method was suggested to me by the work of R. Dunger, who described a similar method of demonstrating eosinophilia, by using eosin dissolved in dilute acetone as a diluent.[1]

Union Medical College, Peking, China.

A CASE OF CEREBRAL MALARIA: RECOVERY AFTER 48 HOURS' UNCONSCIOUSNESS.

BY W. THOROLD QUAIFE, M.B., CH.M. SYD., D.T.M. & HY. CAMB.

THE patient was a native of Ysabel Island, aged 18, strong, healthy, and well-nourished, and was employed on a small sailing vessel. On August 25th, 1911, he worked in his usual health during the day. He helped to heave up the anchor at 11 P.M. At 12 midnight he suddenly fell down "with violent convulsions" and deep unconsciousness. He soon became quiet and remained so all night.

August 26th, 10 A.M.: Patient was brought to me. Deep coma present; corneal reflex absent; pupils moderately dilated, equal, reacting slowly to light. Temperature 101° F.; pulse 160, volume and tension medium; respiration rapid and stertorous. The whole muscular system was completely relaxed. No physical signs noted in chest. Abdomen retracted, soft; spleen palpable 2 inches below costal margin, with firm, thick, rounded border. Liver just palpable, soft. No jaundice present. 10.15 A.M.: Quinine bihydrochloride, gr. 30, dissolved in 6 oz. water, given by the rectum. Distinct resistance to movement in arms felt. Fresh films of blood taken now showed a few half-grown pigmented malignant tertian malaria parasites. 11 A.M.: Occasional convulsive movements of arms and hands and facial muscles noted. Later corneal reflexes appeared, and marked resistance to passive movements of arms. Lower extremities soft and flaccid throughout. 3 P.M.: Pulse 150, softer; temperature 101°; respiration more laboured, all the accessory muscles of respiration being called into play. Corneal reflex just present. Quinine bihydrochloride, gr. 30, given by the rectum. 10 P.M.: Respiration rather easier; pulse 140, very feeble; temperature 101°. Corneal reflex present. Continuous movements of arms, hands, and facial muscles now very marked. Quinine bihydrochloride, gr. 30, given by rectum.

August 27th, 6 A.M.: Temperature 100°; respiration quite easy; pulse 116, tension fair, very much improved. The patient was unconscious, but all the reflexes were present except in the lower limbs. He turned his head in the direction of any loud noise. The lower extremities were flaccid and there was no resistance to passive movement. He resisted passive movement to the arms and head. There was now present slight icterus, to be noted in the sclerotics. He immediately rejected any fluid put into the mouth, with thin pus from a rather marked condition of pyorrhœa alveolaris. Bladder emptied by catheter. Bowels moved under him later in day. 6 P.M.: Condition generally unchanged. Pulse 110, rather improved. Still unconscious. 12 midnight: Much brighter, but still quite dazed. Moved legs with some difficulty. Later he sat up and then lay down on the floor, and passed urine naturally. No quinine was given to-day.

August 28th, 6 A.M.: Pulse 100, good quality. Stupid, and could not understand much that was said to him. Could walk with support though the legs were slightly ataxic. Took and ate biscuits given him, but immediately rejected quinine. Slept most of the day.

August 29th: A little weak but quite sensible and walked quite well. Pulse 90, good; temperature 98°. Quinine bihydrochloride, gr. 15, given in solution by the mouth and retained.

Later the boy made a complete recovery and no complications ensued.

Gavutu, Solomon Islands.

[1] Münchener Medizinische Wochenschrift, vol. lvii., p. 1942.

Dr. J. J. van Loghem, an Amsterdam bacteriologist who was sent out to investigate the epidemic of plague in Java, has now returned, and has received the thanks of the Government for the valuable assistance which he has afforded to the colonial medical officers.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN.

Tuberculous Joint Disease in Children.

A MEETING of this section was held on Dec. 15th, 1911, Dr. G. A. SUTHERLAND, the President, being in the chair.

A discussion on the Treatment of Tuberculous Joint Disease in Children was opened by Mr. A. H. TUBBY, Sir ANTHONY A. BOWLBY, and Dr. A. BUTLER HARRIS.

Mr. A. H. TUBBY'S address, dealing with the "Indications for Surgical Interference in the Treatment of Tuberculous Joint Disease in Children, with Remarks as to the After-Results," will be found at p. 4.

Sir ANTHONY A. BOWLBY, dealing with the "Results Obtainable without Operation," said that tuberculous disease of the joints in children stood in a different position from similar diseases in the adult because of the much greater powers of resistance and repair shown in the tissues affected. He alluded to the pathological processes of tuberculous infection of the bone, pointing out how rapidly and extensively bone might be absorbed in children, and how exceptionally suppuration occurred. Growth of new bone in the child was very rapid, and it was this absorption of tubercular bone and the growth of new bone that enabled the tubercular joints of children to repair themselves so remarkably. The soft parts in the child also had this power of repair denied to the adult. But these powers of repair must depend largely upon the health and nutrition of the child, whence it was imperative to attend to the general health. Good and plentiful food of an easily assimilable nature, in which milk played an important part, was essential. The bowels should be regulated, and iron, cod-liver oil, and malt administered. All possible sources of ill-health should be attended to, especially tonsils, adenoids, and carious teeth. The local treatment of the joint by splints was considered, and a recumbent position for a time, even when a joint of the upper limb was involved, was insisted on. Stress was laid on the importance of open-air life. He thought he had seen tuberculin do good in some cases. The advent of asepsis had completely altered the whole picture of tubercle in joints, for death was more often caused by sepsis than by tubercle. In dealing with abscesses the greatest possible care was necessary both to prevent the joint becoming septic, and not to infect neighbouring tissues with tubercle. His treatment of abscess was aseptic incision and temporary drainage. Even with open and septic sinuses in the larger number of cases the limb could be saved by directing one's efforts to the general health of the child, by doing all that could be done locally, and by vaccines to obtain an aseptic condition. He amputated less and less frequently for even apparently desperate conditions, for he had seen children recover from most extensive emaciation and amyloid disease, with hectic fever, when treated conservatively. In many cases treated early and for a sufficient time he had seen complete restoration of function, and except for a little impairment in bulk of the limb it had been impossible to tell which joint had been involved. He considered that almost all cases taken in the early stages were really curable in the widest sense of the term. In his experience tuberculosis of the lungs or the glands was a very rare complication. Occasionally general tuberculosis occurred. In some cases the disease was multi-articular. In concluding, he gave a very favourable view of the curability of tubercular joint disease in children, expressing his opinion that what was wanted was increased accommodation in hospitals in the country for the treatment of the disease.

Dr. A. BUTLER HARRIS, dealing with the Rôle of Vaccine Therapy, said that the Royal Commission in its final report had published evidence which went to prove that a considerable amount of tuberculosis in childhood was to be ascribed to infection with bacilli of the bovine type, transmitted in meals consisting largely of cow's milk. It was generally recognised, though not sufficiently guarded against, that tubercle bacilli were abundantly present in the milk of cows with tubercular disease of the udder. But bacilli might be present in the milk of tubercular cows showing no evidence of such disease, even when examined post mortem. Amongst working-classes environment as well as food was an important factor, and it must be admitted that a very considerable number of bacilli found in the joints of children gave the human reaction. As far as was known at present, it did not appear to matter much clinically whether, in the joint affections of children, the strain was of human or bovine origin. The same tuberculin appeared to do well in every case, and the opsonic indices came out equally whether one or other strain was used. It mattered, however, in respect to the general hygiene of the child, for the surroundings must be as free from tubercle bacilli as the food. In the diagnosis of tubercular affections of the joints massive injections of the old tuberculin had been abandoned; Calmette's reaction was out of favour with many, and von Pirquet's reaction, although trustworthy as to the diagnosis of tuberculosis in the human subject, could not differentiate the site of a particular lesion. The estimation of a series of tuberculo-opsonic indices was undoubtedly of use in diagnosis. The method of estimating the indices was described. In spite of the objections raised and the liabilities of error the method was of considerable use in diagnosis. Two methods of treatment were discussed: (1) Methods producing auto-inoculation; and (2) administration of tuberculin. Auto-inoculation was feasible only in the method of passive congestion, and in such the dosage could not be regulated, and a steep negative phase might result. The method was practicable only in joints distal from the trunk, and distal joints were clearly less liable to pour an excess of inoculating material into the body than the proximal ones, and it was interesting that ankles and wrists did better than knees and elbows in this method; it was not commended for hips and shoulders. The advantage claimed for this method was that an autogenous vaccine was introduced. This, however, was of little moment, since there was no evidence that one strain of tuberculin was better than another for therapeutic inoculation. The conditions and mode of administration of tuberculin were fully discussed, and the somewhat divergent information as to the value of tuberculin, received in answer to a circular letter sent to 13 hospitals, was presented. It was concluded that tuberculin, given in small doses under conditions of surgical rest, tended to accelerate the rate of recovery. It was generally the practice to administer Koch's T.R. of human origin whether the infection was of the bovine or human strain, and children, on the whole, did better on this than on the bovine strain. It was not necessary to use the opsonic index during the whole course of treatment, provided the case was clinically pursuing a favourable course.

Mr. ROBERT JONES (Liverpool) agreed as to the difference between tubercle in the adult and in the child. In the early stage in children tubercle nearly always ran a benign course if attention was paid to the affected part having absolute rest and the child having good food and good country air. He emphasised the importance of the children being out of doors both day and night. Immobilisation of the joint should be complete, and care should be given to the position of the limb, which he described in detail. He believed children were often taken out of their splints too soon. He described his tests of recovery. He never opened an abscess until it came to the surface, and then only by a very small puncture.

Sir W. WATSON CHEYNE said that he practically never operated now for a tuberculous joint in the child. Tuberculous disease of joints seemed milder than formerly; whether the bacilli were less virulent he did not know. There were diseases which gradually died out. The modern mode of living was certainly more hygienic. He did not think that operation for such disease in children could be put out of mind altogether. In the early stage when the disease was in one focus, removing that focus produced the best results. In the treatment of abscesses he employed antisepsis and asepsis, opened freely, and scraped them out. He always used tuberculin, and thought it did no harm, but he had not yet seen a definite good result which he could attribute to it.

Mr. H. J. GAUVAIN (Alton) ardently supported conservative treatment, but was fully alive to the importance of radical treatment in special circumstances. In his experience in many cases the course of the disease could be foretold, and if it were likely to run a serious course he believed in early operation. Abscesses he invariably aspirated. These children should be treated in the best country air and in specially equipped country hospitals. If all early cases were so treated he believed that there would be about 95 per cent. of recoveries, mostly without deformity.

Mr. J. JACKSON CLARKE raised the point as to the number of cases apparently cured in infancy in which recurrence took place in later life. He had not seen a case ameliorated by tuberculin which had resisted other treatment.

Mr. W. G. SUTCLIFFE (Margate) emphasised the long time these cases required to heal, the average time for a tuberculous knee or hip being four or five years. Hip cases did best if continually kept in bed for many months. He used tuberculin but had seen no definite results from it.

Mr. E. M. CORNER said that if there was an abscess the case would sooner or later come to operation, and he preferred to incise the abscess, wash it out, and employ temporary drainage. With regard to the number of cases that got well without operation he urged the importance of accurate diagnosis. The diagnosis of a tuberculous hip was really a diagnosis of inflammation of the joint, the tuberculous nature being a matter of assumption, to which little weight was added by opsonic estimation. He had seen many cases regarded as tuberculous and answering the tests which were not really due to tubercle. He thought that many so-called tuberculous joints which got well were instances of infection of the joints by another organism, and not by the tubercle bacillus. His experience with tuberculin agreed with that of the previous speakers, but he had seen cases which did not improve in the ordinary way suddenly begin to get well when put upon tuberculin. He suggested that some of the successes following tuberculin treatment were due not to it but to some unknown factor not yet understood.

Mr. J. P. LOCKHART MUMMERY advocated and practised conservative treatment, merely opening abscesses through a small incision, removing caseous material, and immediately suturing the wound. In septic infection, after scraping the sinuses, plugging them with gauze soaked in 5 per cent. formalin often gave good results.

SECTION OF BALNEOLOGY AND CLIMATOLOGY.

Treatment of Gastro-hepatic Dyspepsia at Vichy, Carlsbad, and Cheltenham.

A MEETING of this section was held on Dec. 13th, 1911, Mr. G. H. THOMPSON, the President, being in the chair.

Dr. GUSTAVE MONOD (Vichy), in a paper entitled "The Treatment of Gastro-hepatic Dyspepsia at Vichy, Carlsbad, and Cheltenham," briefly sketched and contrasted hydrological treatment as carried out at Vichy, Carlsbad, and Cheltenham, and pointed out that cases of gastro-hepatic dyspepsia might be treated with equal success at each of these health resorts. He particularly emphasised the fact that chemical analysis of the waters did not explain their therapeutic effect, and further, that waters of widely different chemical composition produced the same clinical results. He affirmed that the clinical standard was the only reliable one and should form the basis of all hydrological treatment. He had been particularly impressed with the therapeutic resources of Cheltenham, and gave it as his opinion that the waters of this spa, if they were hot, would unite the merits of Vichy with those of Carlsbad a combination which would confer world-wide renown on a British health resort. He deplored the meagre quality of the literature on Cheltenham from a clinical point of view, and maintained that, unless well-defined clinical indications were furnished, continental physicians would not feel encouraged to send their patients to an English spa.

Dr. C. W. BUCKLEY emphasised the value of comparative studies of spas such as Dr. Monod had laid before them. He deplored the fact that Cheltenham did not make more use of its waters, which possessed unique qualities. He briefly discussed the origin of the under-current douche as used at Vichy, and said that while Plombières claimed its invention it probably originated independently at many different spas.

Dr. S. P. SUNDERLAND also discussed the paper, and Dr. MONOD replied.

DEVON AND EXETER MEDICO-CHIRURGICAL SOCIETY.

Diagnosis and Treatment of Carcinoma of the Rectum.

A MEETING of this society was held at the Royal Devon and Exeter Hospital on Dec. 9th, 1911, Mr. J. M. ACKLAND, the President, being in the chair.

Mr. H. J. WARING (responding to a request from the President and Council of the society) gave a lecture on the Diagnosis and Treatment of Carcinoma of the Rectum. He began by briefly referring to the anatomy of the pelvis, laying special stress on the distribution of the lymphatic and vascular systems and the peritoneal attachments. He pointed out that next to the stomach the rectum was the most often invaded portion of the alimentary tract. He considered that errors in diagnosis were as a rule made rather through incompleteness in examination technique than through ignorance. For this reason he advocated a routine method of examination on the following lines where rectal disease was suspected: 1. Inquiry into the history of the case, and if possible the inspection of a bowel evacuation without aid of aperient or enema. 2. Local examination, preceded by aperient or enema. This local examination should include: A. Inspection of anal ring. B. Digital examination, in: (*a*) left lateral position; (*b*) genu-pectoral position; (*c*) sitting position (here growths become sometimes accessible where otherwise no abnormality could be detected in the bowel); (*d*) bimanual, either with or without the aid of an anæsthetic (in the case of the female the combined vaginal and rectal examination was extremely valuable); and (*e*) instrumental by the proctoscope (two forms of which were shown to the meeting). Mr. Waring lamented the fact that patients were treated for coexistent piles or by dilatation with bougie for stricture when an examination conducted on the above lines would in many cases have revealed disease at a moment when the question of operation for its complete removal could be hopefully laid before the patient. He also counselled the advisability of removing at the time of examination a small portion of growth in doubtful cases. In the case of disease at some distance from the examining finger the growth could be conveniently removed through the proctoscope by specially constructed forceps. The portion so taken away might show the presence of squamous-celled carcinoma when removed from the lower two inches of the bowel; columnar-celled carcinoma, (adeno-carcinoma, scirrhus carcinoma, or colloid carcinoma); or sarcoma, extremely rare and only noted once in his personal experience, the patient being a boy. Secondary growths might be found in: (*a*) the inguinal glands (growths in the neighbourhood of the anal margin frequently spread to these glands); (*b*) sacral; (*c*) lateral pelvic; (*d*) lumbar; and (*e*) supraclavicular (invasion of these glands occurred in advanced cases and indicated disease in the upper bowel and extension *viâ* the thoracic duct; operation here was, of course, entirely negatived). The liver and lung were the organs most frequently the seat of secondary visceral growths. Mr. Waring next dwelt on the points making for or against the advisability of an operation, attaching special importance to the locality of the growth and its exact relation to surrounding structures, such as the bladder, vesiculæ seminales, prostate, or in the female the uterus and vagina. Where invasion of the bladder was suspected, examination with the cystoscope in the male, or the speculum in the female, should always be undertaken before operation was decided upon. If then it was seen that the growth had extended to or through the vesical wall the patient would be saved from a fruitless operation. In the absence of visceral secondary growths lymphatic dissemination was not necessarily a bar to operation. As regards the general condition of the patient, the state of the renal functions should be carefully ascertained. Obese patients, and more especially obese male subjects, were the least suitable for the abdomino-perineal operation. Turning to the varieties of operation, there were five classical methods:—1. Perineal (Cripps). Suitable only for growths within reach of the finger. 2. The posterior, or Kraske's, operation with division of the sacrum. The originator did not now recommend it owing to the unsatisfactory position of the resulting anus and the high mortality. 3. The vaginal method. Here disease might sometimes be eradicated by an incision carried through the posterior vaginal wall, and in some cases (one of which was cited by Mr. Waring) excellent results had been obtained, both as to function and freedom from recurrence. 4. The abdominal method, which aimed at removal of the diseased portion of bowel and end-to-end anastomosis. A splint could be conveniently employed by means of a rubber tube with one extremity protruding at the anal margin. 5. The abdomino-perineal method. In describing this procedure Mr. Waring strongly cautioned against attempting this operation when obstruction was present, and he advised in such circumstances that an inguinal colostomy should be performed at least two weeks prior to the actual excision

of the diseased bowel. The permanence of the colostomy opening would then, of course, depend on the length of bowel excised and the feasibility of bringing it down. He showed from his own experience that sufficient length could generally be obtained by digital separation of the peritoneum laterally, and in one case he had partially freed the splenic flexure. When excision was undertaken and it was possible to unite the bowel to the anal margin he strongly advised that this should be done. The lumen should be either closed by stitches for a couple of days or a rubber tube sewn in so as to minimise contamination of the wound. From his own personal experience Mr. Waring could speak hopefully of the operation as regarded both functional results and freedom from recurrence, and at the close of his lecture he showed two specimens of excised bowel with extensive growth successfully removed, one of which related to a patient operated upon some five years ago who remained free from recurrence and in the enjoyment of good health.

A vote of thanks, proposed by Mr. A. C. ROPER and seconded by Dr. P. M. DEAS, was unanimously accorded to Mr. Waring. In the evening the society entertained Mr. Waring at its annual dinner, Dr. WILLIAM GORDON being in the chair.

EDINBURGH OBSTETRICAL SOCIETY.

Abdominal Operations for Cancer of the Cervix and Corpus Uteri.

A MEETING of this society was held on Dec. 13th last, Dr. J. HAIG FERGUSON, the President, being in the chair.

Dr. F. J. MCCANN, of London, gave a lantern demonstration with explanation of the technique of the more extensive Abdominal Operations for Cancer of the Cervix and Corpus Uteri. The preliminary operation is performed in a different room, with different instruments and gloves, and is carried out just before the abdominal one. At the first operation the necrosed part of the cervix is scraped and cauterised with the iron cautery. The vagina is swabbed with a 5 per cent. solution of silver nitrate, the excess dried out, and a large piece of iodoform gauze is packed into the vagina and so arranged as to admit of easy removal. The patient is then wheeled into another room and placed in the Trendelenburg position. Dr. McCann described in detail the abdominal operation by which the uterus, appendages, and parametrium are removed, the cancer being enclosed in a bag of vagina. Cystitis after operation is prevented by emptying the bladder by catheter every four hours from the first day onwards, so that the urine is not allowed to accumulate in the bladder, and on each occasion it is completely emptied. A certain amount of vesical paresis is present in every case owing to the extensive separation of the bladder. Dr. McCann had in 41 cases of cervix carcinoma a mortality of 2, though in 1 case he was not responsible for the after-treatment, and in 24 cases of cancer of the body of the uterus he had 1 death.

Dr. A. H. F. BARBOUR was very much interested in Dr. McCann's paper and more particularly in his good results. The importance of tying the ovarian arteries was obvious. He was surprised to see the frequency of cancer of the body of the uterus in comparison with cancer of the cervix in Dr. McCann's series of cases.

Dr. N. T. BREWIS said that Dr. McCann's description of the operation was the clearest he had heard or read. The operation was commonly called Wertheim's, but he should not get the credit of it because the only part he was entitled to was the use of vaginal clamps; many others had worked at it before Wertheim. Until quite recently he (Dr. Brewis) had considered that the vaginal operation gave as good results as the abdominal: at any rate he felt that if the disease was not confined to the uterus there was no good doing any other operation. Now, however, he was a convert to the abdominal operation, which gave the possibility of determining whether the case was operable or not. He agreed with Dr. McCann that cancer of the body was almost as common as cancer of the cervix and almost as virulently malignant.

Professor J. A. C. KYNOCH (Dundee) mentioned that from observation at his visits to German clinics they got the cases in a much earlier stage than surgeons did in this country. His own experience of vaginal hysterectomy was very discouraging. The protection of the abdominal wound was of great importance in order to prevent infection.

Dr. W. FORDYCE said that his results had been somewhat disappointing with Wertheim's operation. As regards separation of the bladder, he considered if there was any risk of tearing into the bladder because of infiltration, then the operation had better not be continued, because there was probably infection.

Mr. E. W. SCOTT CARMICHAEL considered the abdominal operation the only operation which could be entertained on scientific and pathological grounds for the radical cure of cancer, and he never intended in the future to do a vaginal hysterectomy for an operable case of cervical cancer. Wertheim in his recently published results had in 500 cases a mortality of 15 per cent., while Dr. McCann in 41 cases had 2 per cent. These latter good results were due to the excellent technique of Dr. McCann. He was convinced that in pelvic operations it was necessary to do an anatomical dissection as far as possible. Ligaturing in a mass was objectionable.

The PRESIDENT said Dr. McCann had shown that the mortality of abdominal hysterectomy for cancer could be brought down practically to that of vaginal hysterectomy. It was absolutely impossible to remove all the glands from the pelvis and abdomen. It was known that in only one-third of the cases of cancer of the cervix were the glands post mortem found to be involved at all, and these were chiefly in advanced inoperable cases. In his experience, recurrence took place not so much in the glands as in the scar. The great advantage of the abdominal operation was that one could isolate the infective mass and prevent recurrence; the main point was to remove the parametrium.

Dr. MCCANN, in reply, said that the clamp used by Wertheim was not his own, and the idea of closing the bag of the vagina was done long before his time; but Wertheim had definitely and consistently followed this operation for many years and had placed on record the largest number of tabulated cases. Entire removal of glands was not possible, but as thorough a removal as possible greatly improved the after-results. An interesting point was that in the abdominal operation the recurrence was in the glands, whereas in the vaginal operation it was in the scar. The complete separation of the bladder should not be done until after the ureters had been separated. His objection to previous curetting some days before was that it was apt to be followed by sepsis and inflammation of the bladder, owing to the packing becoming infected. The selection of cases was very important, lest the operation should be brought into discredit. His object had been mainly to show the results obtainable by attention to technique and especially to hæmostasis.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF SURGERY.

Veno-venostomy in Ascites.—Volvulus of the Spermatic Cord.—Treatment of Surgical Tuberculosis by "Dioradin."

A MEETING of this section was held on Dec. 8th, Mr. W. I. DE C. WHEELER being in the chair.

Sir CHARLES BALL read notes of a case of Ascites in an alcoholic woman. On Nov. 30th, 1910, she was treated by lymphangioplasty, but this operation was unsuccessful in preventing the accumulation of ascitic fluid. On Dec. 21st an incision was made on the left saphenic opening down the thigh over the course of the vein for about 10 inches. The vessel was ligatured and cut across below and dissected out up to the point at which it went in deeply to join the femoral vein. The abdomen was opened by an oblique incision over Poupart's ligament, and the lower edge of the peritoneal incision was separated from the pelvis until the femoral ring was exposed. The cut end of the saphena vein was brought through the canal into the subperitoneal tissue. An incision was made through the outer layer of peritoneum of the meso-colon, and a large sigmoid vein was found. By separating the peritoneum from the incision in the meso-colon the primary wound in the abdominal wall was easily reached, so that the saphena vein could be brought up into the meso-colon extra-peritoneally. The intestinal vein was anastomosed into the saphena vein, and on removing the clamps blood was seen flowing into the saphena vein without leakage at the line of

union. Before closing the abdomen the side of the silk drains on the opposite side were felt, and it was found they had been smoothly covered by lymph and were useless. Recovery was rapid, but fluid re-forming moderately she was tapped again on Jan. 18th. She remained well until two months ago, when she began to drink heavily, and the fluid re-formed. Had she given herself fair-play she probably would have remained longer well.—Mr. WHEELER said that what Talma and Morison had attempted had been successfully accomplished by Sir Charles Ball. He had found the Talma operation to work well in a case of ascites, but no patient suffering from jaundice, cirrhosis of the kidney, or heart affection could be considered suitable for such an operation. Patients suffering from atrophic ascites were the most favourable cases.—Mr. K. E. L. G. GUNN said he had once attempted to anastomose the ovarian and portal veins, but failed. In these Morison cases the patient either improved immediately or there was no improvement at all. If the improvement was due to the anastomosis being satisfactory, one would expect it to be of a gradual nature. He would prefer to try the operation suggested by Sir Charles Ball.—Mr. R. A. STONEY said that although he considered the operation of Sir Charles Ball an excellent one, lymphangioplasty could not be dismissed as an absolute failure. In a case of polyserositis he had found it most satisfactory.—Sir CHARLES BALL, replying, said his results with lymphangioplasty had been most disappointing.

Mr. A. A. MCCONNELL read notes of a case of Volvulus of the Spermatic Cord in a boy of 15, who was suddenly seized with severe pain in the right groin when he was sitting on his right foot with that leg crossed tailor-fashion beneath him. He had several attacks of vomiting. Strangulation of an incomplete inguinal hernia was diagnosed, and the case was operated on. The external oblique aponeurosis having been defined, what appeared to be the fundus of a hernial sac presented between the pillars of the ring. On opening the sac what appeared to be a coil of intestine was seen, covered by peritoneum and intensely congested. The sac came to an end at the internal ring, and the coil of supposed gut did not pass to the region of the ring. The finger could be passed freely downwards into the tunica vaginalis. The testicle was pulled up, and the supposed coil of intestine was found to be formed by a loop of the spermatic cord twisted on itself for two turns. All the constituents of the cord, including the vas, were included in this twisting of the loop. As the condition of the vessels would be incompatible with the maintenance of the blood-supply of the testis, and as necrosis of the latter often ensued after untwisting the cord in cases of torsion, the testicle was removed. The testis was apparently normal and could be palpated without pain or tenderness. The only explanation for the absence of testicular swelling was that probably the arteries and veins had been occluded simultaneously, so that marked venous congestion could not take place.—Mr. WHEELER and Sir CHARLES BALL found it difficult to understand how an ordinary torsion of the cord could occur.—Mr. STOKES spoke of his experience of two cases of this kind. In neither was there any trace of atrophy in the testicle after the torsion had been reduced.—Mr. STEVENSON asked if it was found easy to untwist the cord.—Mr. MCCONNELL, in reply, had no theory to advance as to the causation of the condition. He did not think, seeing the way the cord was involved, that the blood-supply of the testis could have been carried on by that of the tunica. It was fairly easy to untwist the cord, but that did not satisfy him as to its safety. In another such case he would be inclined to leave the testis.

Mr. STONEY, in a paper on the Treatment of Surgical Tuberculosis by "Dioradin," stated that Dr. Bernheim visited the Royal City of Dublin Hospital last August and having examined several cases of various forms of surgical tuberculosis gave each patient an injection of "dioradin," leaving a supply to continue treatment. Fifteen cases had received one course of injections. Each course consisted of 40 injections of 1 c.c. or less (according to age) of "dioradin" into the gluteal muscles, the first 30 on consecutive days and the last 10 on alternate days. Dr. Bernheim advised at least two courses of injections given with a fortnight's interval. The results might be summarised as follows. In five cases without secondary infection there was one apparent cure (Case 1, Pott's caries), and the other four cases all greatly improved, and would probably result in cure after further treatment (Case 4, tubercular knee, Case 6, tubercular tarsus, Case 9, advanced tubercular hip, and Case 10, early tubercular hip). In ten cases with secondary infection there was one apparent cure (Case 5, with multiple tubercular foci); two cases were greatly improved and appeared likely to result in cure after a further course of injections (Case 3 and Case 11, both advanced tubercular hips); four cases showed some improvement (Case 2, tubercular cystitis, Case 13, tubercular peritonitis and fibroid phthisis, Case 14, lupus, and Case 15, phthisis and enlarged cervical glands). And finally three cases showed no improvement (Case 7, multiple tubercular foci, Case 8, hip disease, and Case 12, tubercular cystitis). Of these three, the case of cystitis was distinctly worse, but there was no reason to suggest that the treatment was to blame for this; he was admitted to hospital only to try to get him sufficiently improved to allow him to go back to the country to die. The disease had lasted several years, and his kidneys were almost certainly affected also. The case of the hip was never proved to be tubercular; and in any case the septic element present always appeared the more important. The case of multiple tubercular foci, after improving, developed whooping-cough and relapsed; however, a few days ago he was reported almost perfectly well, only one very small sinus still remaining with a very slight daily discharge. Many of these cases had already been in hospital under various forms of treatment without improvement for many months before the injections of "dioradin" were started.—Mr. WHEELER said it was hard to see how intramuscular use of radium could do good. He attributed the improvement as much to extra attention given to them as the "dioradin."—Dr. W. M. CROFTON referred to the treatment of phthisical cases with iodoform given intravenously or intramuscularly. Combined with tuberculin this treatment had the effect of bringing down the temperature, reducing the sputum in advanced cases. Iodoform obviated the reaction after tuberculin. He had seen "dioradin" fail in three advanced cases of pulmonary tuberculosis.—Mr. STEVENSON said it was of interest that those cases in which there was no secondary infection gave the best results. He suggested combining "dioradin" treatment with a vaccine for the secondary infection. The great objection to the use of the drug was the uncertainty as to its exact composition.—Dr. T. P. C. KIRKPATRICK was not favourably impressed by it so far. He had not yet seen any case which could be called a "cure."—Mr. STONEY, replying, said that most of his patients had been under treatment for a considerable time without improvement, but that as soon as "dioradin" was injected it did them some good. It had been definitely demonstrated by test-tube experiments that the combining of radium chloride with menthol and iodine increased its power of destruction of the tubercle bacillus. Some cases of secondary infection thus treated by him had improved considerably.

UNITED SERVICES MEDICAL SOCIETY.—A meeting of this society was held on Dec. 13th, 1911, at the Royal Army Medical College. Major E. B. Waggett, R.A.M.C. (T.), being in the chair.—Fleet Surgeon D. J. P. McNabb, R.N., read a paper on the Functions of Hospital Ships in Peace and War. The lecturer, who has had medical charge of the Royal Navy hospital ship *Maine*, spoke of the services rendered in peace by a hospital ship constantly ready to receive the more serious cases of illness and accident from the fighting ships of the fleet at sea or in places with no suitable accommodation on shore, thus relieving the strain on the sick berth accommodation of the fleet and providing the sick with air-space, nursing, quiet, and general comfort unattainable in a man-of-war. In war time the duties of hospital ships were more exacting and important. It was necessary to clear fighting ships of their wounded as soon as possible after action, both for the welfare of the injured and because a ship encumbered with wounded would be much hampered should it be necessary to renew the action. Many interesting details were given as to the best methods of transport of wounded from the fighting ships to the hospital ships, and the lecture was illustrated by models of appliances for conveying injured men. The best position to be taken up by the warship and hospital ship during the transference, using the larger vessel as a breakwater, so that the boats might have as smooth water as

possible, was dwelt on. When fighting was taking place on land, but in the vicinity of the sea, in many places (such as the West Coast of Africa) the hospital ship was an invaluable accessory, providing the sick and wounded with an accommodation, attention, and comfort otherwise impossible. Another function of hospital ships in peace and war was the transport of large numbers of sick either from the seat of war home or from a foreign hospital to a home one; the Royal Naval hospital ship *Maine* had been largely used for this purpose when not in attendance on a fleet and by so doing had greatly relieved the congestion of foreign hospitals and brought the sick to a climate where their prospects of speedy recovery were considerably enhanced. The lecturer stated that in his opinion the ideal hospital ship was one of from three to four thousand tons, with a speed of about twelve knots, and with accommodation for about 240 sick in peace time, which accommodation could be increased in war time by about 100. Fleet-Surgeon McNabb also considered it desirable that each hospital ship should have four wards on the boat deck for cases of infectious disease.—Deputy-Surgeon-General J. J. Dennis, R.N., Major W. S. Harrison, R.A.M.C., Major Waggett, and Inspector-General R. Bentham, R.N. (retired), took part in the discussion.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.—The first clinical meeting of this society was held on Dec. 15th, 1911, Mr. H. Littlewood, the President, being in the chair.—The President showed eight cases of Gastric Ulcer successfully treated by excision of the ulcer. In each case a cure had resulted.—Dr. H. H. Greenwood showed a case of Melanotic Sarcoma of the Neck in a man aged 67, treated periodically for eight months with Coley's fluid, with apparent recovery.—Dr. A. G. Barrs showed a man, aged 36, who exhibited all the classical signs and symptoms of Locomotor Ataxia, which began after a very severe shock. There was no history or sign of syphilis.—Mr. W. Thompson showed a case of Gastro-enterostomy, with Recurrent Symptoms, in a man aged 29; also a case of Xerostomia in a female aged 23, associated with recurrent swelling in the parotid gland.—Dr. W. H. Maxwell Telling showed a case of Unilateral Facial Sweating of 12 years' duration in a male aged 60. Also a case of "Aleukæmic" Leukæmia with a massive Spleen in a man aged 52. The appearance was one of chronic cyanosis rather than of anæmia. The blood showed a high red-cell count and a comparatively low white-cell count; the diagnosis of myelogenous leukæmia was based on the differential white-cell count. The condition was largely stationary, though there had been some general improvement under arsenic.—Mr. H. Collinson showed: 1. A man, aged 41, in whom Symptoms of Musculo-spiral Paralysis followed immediately after fracture of the humerus in March last. At the operation the musculo-spiral nerve was found contused between the fragments. The fracture was fixed with a Lane's plate, and the nerve was protected by muscular tissue. Restoration of function in the extensor muscles commenced after five months, and was already nearly complete. 2. A boy, aged 15, with a similar condition.—Dr. T. Wardrop Griffith showed a case of Lead Encephalopathy with marked Ataxia in a woman of 34. Symptoms of lead poisoning began after taking certain pills.—Mr. J. F. Dobson showed a man, aged 35, who fractured the lumbar spine in July last. On Sept. 1st laminectomy was performed (first, second, and third lumbar vertebræ), and the cauda equina was found compressed and the dura mater torn. The patient was now commencing to walk with the aid of a walking chair.—Dr. Alexander Sharp showed a case of Hyperplasia in a female aged 21, involving the lingual tonsil, epiglottis, aryepiglottic folds, and the arytenoids, and unaffected by any form of treatment.—Mr. R. Lawford Knaggs showed a woman, aged 26, admitted in December, 1908, for a Pistol Wound of the Brain, upon whom trephining was performed. The skiagrams showed the bullet in the right occipital lobe, some distance above the tentorium.—Cases were also shown by Dr. T. Churton, Mr. J. A. Coupland, Mr. A. L. Whitehead, and Mr. G. Constable Hayes.

NORTHUMBERLAND AND DURHAM MEDICAL SOCIETY.—A meeting of this society was held in the Royal Victoria Infirmary, Newcastle-on-Tyne, on Dec. 14th, 1911.—After a demonstration of the Use of the Œsophagoscope under local anæsthesia on a series of patients suffering from carcinoma, stricture following nitric acid burns, doubtful stricture—i.e., a female patient who had had attacks of obstruction intermittently for years, Mr. C. W. M. Hope delivered an address on Carcinoma of the Œsophagus. He referred to the unsatisfactory means hitherto used in the diagnosis and treatment of the condition, and considered its symptomatology and pathology. Under "examination of the patient" he included in the following order: (1) external glandular enlargement, &c.; (2) mouth, pharynx and larynx, by laryngoscopic mirror; (3) chest, for evidence of aneurysm or pressure of growth; (4) X rays, with the aid of bismuth cachets, meals, &c.; and (5) endoscopic examination, either by local or general anæsthesia. This last was described at length. He classified the treatment under the following headings: (1) dilatation; (2) dilatation with intubation; (3) gastrostomy; and (4) radium, following a dilatation. Dilatation with intubation he considered the most advisable method of treatment, and advocated it strongly. He described a modification of Symonds's tube, a silver flexible stilette being passed through the lumen and a vulcanite front being fixed to it. He referred to several cases in which temporary improvement had resulted from radium, mentioning in particular one case of septic fungating carcinomatous stricture. After 21 months some stricture was still present, but ulceration had gone, and the œsophagus was lined throughout with apparently normal mucous membrane. The patient had gained about a stone and could swallow solid food well. He emphasised the necessity for caution in diagnosing spasm of the œsophagus in middle-aged patients, and quoted such a case with an extensive post-cricoidal carcinoma.—A lantern demonstration illustrating the points brought out followed the address. There was a short discussion.

NEW LONDON DERMATOLOGICAL SOCIETY.—At a meeting held on Dec. 14th, 1911, Dr. P. S. Abraham, the President, being in the chair, Dr. W. Knowsley Sibley showed: (1) A young woman with Bazin's Disease and Scrofulodermia (shown at a previous meeting) to illustrate the beneficial effect of radiant heat treatment, several of the granulomatous areas having become completely absorbed; (2) a young woman, aged 35, with an acute outbreak of Lichen Planus, associated with a chronic seborrhœic condition of the scalp and body; (3) a child of 14 months with Bullous Impetigo affecting the Buttocks; and (4) a boy, aged 15, with Atypical Molluscum Contagiosum upon the Back. The lesions, three in number, were of the size of a small nut and were semi-pedunculated, but the contents of one of them after incision revealed the presence of the characteristic molluscum bodies.—Dr. G. Norman Meachen showed: 1. A man, aged 25, with Lichen Planus, in which the formation of small bullæ had occurred, chiefly upon the legs. The rarity of this complication and its relation to the administration of arsenic were commented upon. 2. A man with a Rodent Ulcer upon the Side of the Nose, following a scratch inflicted 12 years ago. 3. A case of Pruritus and Pigmentation of the Skin in a man, aged 56, who had been informed 10 years ago by a well-known authority that he was suffering from Addison's disease. At the time of the meeting he was a well-nourished man, and he presented a faint macular and scaly eruption suggestive of a pityriasis rosea.

ROYAL SANITARY INSTITUTE.—The next Congress of the Royal Sanitary Institute will be held at York from July 29th to August 3rd, 1912, under the presidency of the Archbishop of York. Sir Shirley Murphy will preside over the Section of Sanitary Science and Preventive Medicine, Sir Thomas Oliver over the Section of Industrial Hygiene, and Dr. Mary Scharlieb over the Section of Hygiene of Infancy and Childhood, while the President of the Conference of Medical Officers of Health will be Professor A. Bostock Hill.

MEDICAL MAGISTRATES.—Mr. John Cosmo Stuart Rashleigh, M.D., B.C. Cantab., L.S.A., has been placed on the commission of the peace for the county of Devon; Mr. Walter Henry Fox, L.D.S. Eng., dental surgeon to the Gloucester Children's Hospital, has been placed on the commission of the peace for the county of Gloucester; and Mr. Matthew Elder, M.B., C.M. Edin., and Mr. William Charles Devereux, M.B., B.C. Cantab., have been appointed magistrates for the Tewkesbury (Gloucestershire) borough bench.

Reviews and Notices of Books.

Sir John Burdon Sanderson: A Memoir. By the late Lady BURDON SANDERSON. Completed and edited by his Nephew and Niece. With a Selection from his Papers and Addresses. With photogravure frontispiece and three portraits. Oxford: The Clarendon Press; London: Henry Frowde. 1911. Pp. 315. Price 10*s.* 6*d.* net.

THIS memorial volume is divided into two parts, about one-half being devoted to the memoir itself and the remainder to reprints of Sir John Burdon Sanderson's papers and addresses. The memoir consists of nine chapters, of which the first four deal with his parentage and boyhood, youth and education. They were written by the late Lady Burdon Sanderson, while for the remaining chapters, dealing with his earlier and later scientific work, his removal to and life at Oxford, and his personal characteristics and opinions, his nephew and niece, J. S. Haldane and E. S. Haldane, are responsible. Much of the biographical detail here dealt with was included in our obituary of this distinguished man, published in THE LANCET of Dec. 2nd, 1905, but it may not be amiss here to cull a few points and considerations not there recorded. He was intended, we are told, for the profession of the law, but as a lad his inclinations turned towards natural science, and his early relationship with Dr. Mortimer Glover led him to the choice of the profession of medicine. He matriculated at the University of Edinburgh on Nov. 2nd, 1847, in the name of John Scott Sanderson. It was not until a few years later that he habitually adopted his father's ancestral name of Burdon. The professors that most influenced him in his early professional career were Balfour (botany), Goodsir (anatomy), and Hughes Bennett (institutes of medicine). It is stated that in 1841 the microscope, now so familiar to every student, had not found its way into either the ward or the physician's consulting room. He duly became, like so many prominent Scottish physicians and surgeons, president of the Royal Medical Society, and interesting extracts are given from the address he delivered before that society.

In Paris he studied organic chemistry under Wurtz, and followed the lectures of Coste on embryology and those of Bernard on physiology. There can be little doubt that to the influence of Bernard is largely due the benefit which Sanderson derived from his residence in Paris during 1851–2. In 1853 he married Ghetal, elder daughter of the Rev. Ridley H. Herschell, and "the happy life in common which then began continued for 52 years." After ten years' service as medical officer of health of Paddington the reason of his retirement in 1865 was the antagonism induced in some of the vestrymen on account of his proceeding to Germany at the request of the Government to investigate the epidemic of cerebro-spinal meningitis then raging in and around Dantzig. His valuable investigations on diphtheria, into the practice of vaccination, and on cattle plague are well known, and have already been recorded in these columns. His later career is followed in detail, including his work at the Middlesex and Brompton Hospitals, the Brown Institute, and University College, London. With the publication in 1873 of the "Handbook for the Physiological Laboratory," by Klein, Burdon Sanderson, Foster, and Lauder Brunton, the crusade against experimental physiology, known as the anti-vivisection movement, came into notice. The foundation of the Physiological Society was one outcome of this movement. Those who are interested in the early history of this still clamant question will find full details in Chapter VI. of the memoir, which deals with Sanderson's later work in London. The story of the storm that broke out at Oxford in reference to the expenditure of £10,000 to equip a laboratory for Sanderson, on his appointment as Waynflete Professor of Physiology, is well told. When the decree was submitted to Convocation on June 5th, 1882, it met with such strenuous opposition on scientific, financial, and humanitarian grounds that it was carried by a majority of only three in a house of 173. The assistance given by Sir Henry Acland was most valuable. Equally vividly the story is recounted of his varied work, success, and stimulating activity during the 23 years (1882–1905) spent at Oxford. Sanderson held that all the processes which a physiologist can investigate are in ultimate analysis physical and chemical in nature, and he saw clearly the importance of intracellular ferments for the solution of difficulties in the physico-chemical interpretation of cell activity. The elaborate paper on Vegetable Reproduction which in 1854 he prepared for Todd's Cyclopædia of Anatomy and Physiology shows the unity of his aims through his long career as a biologist.

No memoir of Burdon Sanderson would be complete without mention of the wife to whom he owed so much. "A more devoted or helpful wife she could hardly have been, and in addition to that devotion she encouraged her husband in his work in every way in her power." Thus the authors, and all who had the inestimable privilege of knowing Lady Sanderson, will agree with this estimate of her. We can well understand that Sanderson never seemed happy when she was not near, and that in his later days this became increasingly evident. Her greatest work was the love and support which she gave so fully and ungrudgingly to her distinguished husband.

We feel sure that many readers will be glad to possess in a collected form the papers and addresses that make up the second part of this volume. They are: On the Excitability of Plants (1884), On the Study of Physiology (1883), Address delivered to the British Association (1889), Presidential Address to the British Association (1893), Ludwig and Modern Physiology (1896), Cellular Pathology (1900), and Our Duty to the Consumptive Bread-earner (1901).

Altogether this is a delightful memoir of a charming, lovable, and striking personality, of a man whose life was devoted unselfishly to the successful pursuit of truth, and who has left the impress of his labours on the progress of that science to which he devoted his life.

A Handbook of Practical Treatment. By Many Writers. Edited by JOHN H. MUSSER, M.D., LL.D., Professor of Clinical Medicine in the University of Pennsylvania; and A. O. J. KELLY, A.M., M.D., Assistant Professor of Medicine in the University of Pennsylvania. Vol. II. London and Philadelphia: W. B. Saunders Company. 1911. Pp. 865. Price £3 15*s.* net the set (three volumes).

THE second volume of this notable work upon treatment fully bears out the promise of the first, which we reviewed in THE LANCET of Oct. 21st, 1911. The subjects included in this volume are diseases of the cardio-vascular system, the infectious and animal parasites. Each article is a carefully written presentation of the treatment of the condition with which it deals and the principles upon which the treatment is based, while the explanation of its effects is given where this is practicable.

The first article is contributed by Sir T. Clifford Allbutt and is devoted to the treatment of diseases of the cardio-vascular system. It extends to 150 pages and affords an interesting and critical account of the treatment of the individual diseases and disorders of the heart and blood-vessels. The arrangement of the subject-matter is good and is convenient for reference, while the literary style in which it is expressed is the dignified but happy one we are accustomed to expect from this distinguished and cultured writer. Sir Clifford Allbutt, while giving his own personal experience of

various treatments, is careful to state the views of other authorities, usually with references. Mr. Clinton T. Dent, in a short article on the surgery of the heart, describes paracentesis of the pericardium, cardiolysis for pericardial adhesions, and the surgical treatment of thoracic aneurysm. In regard to the removal of the fluid of non-purulent effusions into the pericardium, Mr. Dent thinks that incision, with subsequent dissection down to the pericardial sac, ought to be more frequently employed, since he regards it as safer and more likely to succeed than puncture.

The treatment of typhoid fever is discussed in an interesting and exhaustive manner by Dr. Rufus I. Cole. Considerations of prophylaxis and disinfection are first reviewed, and then the subject of prophylactic vaccination is critically examined. The attempts at specific treatment by antitoxins and serums are referred to, and then the general management and nursing of patients suffering from this disease are described. The subject of diet is dealt with at some length, and the various views at present current in regard to the feeding of these cases are subjected to careful criticism. The uses of antipyretic drugs and measures are described in full, and explicit directions in regard to the bathing of these cases are given, together with numerous illustrations in the form of reproductions of photographs. The treatment of symptoms and complications is also fully considered. Dr. John M. T. Finney describes the treatment of the surgical complications of typhoid fever in a short but practical article. The treatment of pneumonia is examined by Dr. Hobart Amory Hare in a well-written and thoughtful contribution. Diphtheria is dealt with in two separate sections: the first by Dr. George H. Weaver, on the specific and general treatment; the second by Dr. John H. Jopson, on intubation and tracheotomy, which are carefully described. The directions given in regard to the administration of antitoxin are explici[t] and brief reference is made to the "serum reaction" as a manifestation of hypersusceptibility. Dr. Weaver also contributes the articles on scarlet fever, measles, and rötheln.

The treatment of tuberculosis as described by Dr. E. O. Otis extends to 120 pages with copious illustrations. The principles of sanatorium and home treatment, questions of diet, symptomatic and specific agents, are all discussed at length. Plans and illustrations of well-known sanatoriums are given, and numerous simple methods of carrying out open-air treatment at home are described and figured. Three methods of giving tuberculin are referred to—viz., the tolerance method, by giving small doses and gradually increasing them; the reaction method, giving such doses as will produce a mild reaction; and the opsonic index method of Wright. The first of these is the one recommended. The treatment of syphilis is fully and carefully considered by Dr. G. William White and Dr. Alfred C. Wood. The various methods of administering mercury are discussed, with their relative advantages and disadvantages. The use of "606" is briefly reviewed and a judicial attitude is advised in regard to this substance, and until its place in therapeutics is settled the writers of the article advise the practitioner to follow the older methods of treatment. A useful account of the various methods of treating infection by the gonococcus in its manifestations in both sexes is contributed by Dr. Edward Martin. The treatment of vaccinia, variola, and chicken-pox is described by Dr. Jay F. Schamberg, and that of cerebro-spinal fever, cholera asiatica, and plague by Dr. Llewellys F. Barker, while the subjects of yellow fever and dengue are dealt with by Dr. James Carroll. Dr. Alfred Stengel discusses the treatment of influenza and rheumatic fever in two practical and clearly expressed articles. Tetanus, rabies, anthrax, glanders, actinomycosis, Madura foot, and foot-and-mouth disease are briefly considered by Dr. Joseph C. Bloodgood and Dr. Alexius McGlannan, and pertussis, mumps, miliary fever, and glandular fever by Dr. Samuel McHamill. The treatment of dysentery is dealt with by Dr. Charles F. Martin, that of leprosy by Dr. Isadore Dyer, and that of typhus fever by Dr. John F. Anderson. In the last-mentioned article the importance of the body louse in spreading infection is emphasised, and a brief description is given of recent work upon the communicability of this disease.

The remainder of the book contains some special articles. The first of these is devoted to tropical diseases, which are admirably dealt with by Dr. M. J. Rosenau and Dr. J. F. Anderson. The second, by Dr. D. G. E. de Schweinitz, is devoted to the ocular complications of the infectious diseases, and gives a full and interesting account of the management of these serious and important conditions. A similar article on the aural complications of the infectious diseases is contributed by Dr. Charles W. Richardson, while the surgical treatment of the joint complications of the infectious diseases is discussed by Dr. Joel E. Goldthwait. The treatment of conditions due to animal parasites is considered at length by Dr. David Riesman. A full index is appended to this volume, rendering reference easy.

Delayed and Complicated Labour. By ROBERT JARDINE, M.D. Edin., M.R.C.S. Eng., F.R.F.P. & S. Glasg., F.R.S. Edin., Professor of Midwifery in St. Mungo's College, Glasgow; Obstetric Physician and Gynæcologist to the Glasgow Maternity and Women's Hospital. With 107 illustrations and 3 coloured plates. London: Henry Kimpton. Glasgow: Alexander Stenhouse. 1911. Pp. 351. Price 7*s.* 6*d.* net.

THE readers of Dr. Jardine's work entitled "Clinical Obstetrics" will welcome the appearance of this compact book. In it the author has refrained from publishing the details of illustrative cases, and has contented himself with giving the result of his experience. The work is therefore the outcome of the author's experience and not in any sense a compilation. The amount of material available in the Glasgow Maternity and Women's Hospital is so large that any book written by one of the physicians attached to this hospital must contain much of interest to obstetricians less fortunately placed. But little space, only so much as is necessary to render the part dealing with delayed or complicated labour quite clear to the reader, is devoted in this work to normal labour. On the majority of the problems of obstetrics Dr. Jardine holds clear and well-established views, and the student who consults this work may be sure that he will receive definite instructions as to what should be done in any complicated case of labour and how to set about it. In the treatment of fibroid tumours and ovarian tumours complicating pregnancy and labour the author is in agreement with the best teaching of the day, and deprecates all interference during pregnancy unless it is unmistakably indicated. As he points out, Cæsarean section with hysterectomy at full term is much better than hysterectomy during pregnancy, and in dealing with an ovarian tumour during labour the removal of the tumour and the subsequent delivery of the child through the natural passages is much better than the performance of Cæsarean section.

The cases cited of obstruction caused by the retraction ring or the ring of Bandl are of very great interest. Dr. Jardine accepts the view generally held that the ring of Bandl indicates the union between the upper and lower uterine segments, and that it does not coincide with the internal os, and he points out that cases occur in which the ring itself is the cause of the obstruction to delivery. This may be so either in cases of breech presentation with extended legs, or in normal presentation in which the ring forms in front of the presenting part and itself constitutes the obstruction. He refers to two cases, one under the care of Professor M. Cameron and one

under his own charge. The latter was a most interesting case "in which the membranes were intact and the cervix well dilated, but there was a well-defined ledge round about half of the canal in front of the head." The patient was put deeply under the influence of morphia, but as no relaxation occurred Cæsarean section was performed with a favourable result to both mother and child. Cases have been recorded of obstruction from the retraction ring, even with a normal pelvis. As the author points out, it may form in breech presentations with extended legs above the presenting breech but below the legs, and give rise to delay in the descent of the child. Dr. Jardine suggests that the causes of spasmodic contraction of the internal os may also be the cause of the formation of the retraction ring in these cases. In their treatment the injection of morphia is advised, and then manual dilatation of the ring under an anæsthetic. If this fails, then the performance of Cæsarean section if the child is alive, and even if the child is dead where it is likely that delivery by the natural passages may be dangerous.

Dr. Jardine has had considerable experience of cases of eclampsia, and the chapter devoted to this complication is a particularly good one. His treatment is characterised by a sound conservatism. He does not believe in the view that every case should be delivered as quickly as possible after the fits have commenced. We are glad to see that he lays stress in the preventive treatment on restraining the patient to bed and keeping her warm, a most important injunction. The curative treatment is carried out on the principle of getting the bowels, kidneys, and skin to act. Lately the author has been employing veratrone in doses of 1 c.c. by hypodermic injection, and finds that it has a marked effect in lowering the pulse-rate and tension, and in helping to check the fits. In decapitating, Dr. Jardine uses a modification of the blunt hook to which he has added a knife-edge, and maintains that this form is easier to apply than that of Ramsbotham, while for craniotomy he employs a modification of Auvard's cephalotribe, which seems to be a very efficient instrument.

We can cordially recommend this work as a well-written and trustworthy guide for student or practitioner.

An International System of Ophthalmic Practice. Edited by WALTER L. PYLE, A.M., M.D., Philadelphia. *Pathology and Bacteriology*, by E. TREACHER COLLINS, F.R.C.S. Eng., and M. STEPHEN MAYOU, F.R.C.S. Eng. London: Rebman Limited. 1911. Pp. 558. Price 21*s.* net.

THE need of a small text-book on the pathology of the eye has been long felt by teachers and students. The latter can scarcely be expected to buy an expensive four-volume treatise which has hitherto been the only monograph on the subject in the English language. It is unfortunate that in this case the publishers could not fix the price at a lower figure; none the less, the purchaser will find that he has obtained full value for his money.

The authors have been well advised to adopt a pathological, rather than an anatomical, classification of the disorders and diseases of the eye. Such a scheme places the subject more vividly before the reader and necessitates less repetition. It is the bolder line to adopt, and in many respects more difficult, but it is amply justified by results. The chapters are arranged as follows:—Aberration in development, neoplasms, derangements in the circulating fluids of the eye and of the vessels in which they are contained, injuries, inflammation, parasitic diseases affecting the eye, and degenerations. An appendix on practical methods gives a good *résumé* of the processes used for examining eyes microscopically, mounting macroscopic specimens, preparing vaccines, making Wassermann, agglutination, blood, and other tests.

In the chapter on development Mr. Treacher Collins has gathered together his many researches, amplifying and correlating them into a homogeneous and comprehensive survey. The subdivisions show the same logical sequence that characterises the work as a whole. Aberrations connected with the formation of the primary and secondary optic vesicles are first dealt with, introducing the reader to such anomalies as anophthalmia, cyclopia, coloboma of the retina and optic nerve, and so on. Aberrations connected with the invaginating surface epiblast deal with anomalies of the lens; aberrations connected with the invaginating mesoblast, with such conditions as persistence of the hyaloid artery, atypical development of the vitreous, congenital defects of the suspensory ligament (coloboma and ectopia lentis), and so on. Aberrations connected with the encircling mesoblast are held to account for congenital opacities of the cornea, congenital anterior staphyloma, buphthalmia, abnormalities of the iris and choroid, as well as albinism and melanosis affecting the eye. Lastly, aberrations connected with structures in the line of the orbito-nasal fissure and the formation of the eyelids include lacrymal abnormalities, meningo-encephalocele, cryptophthalmia, dermoids, and anomalies of the lids. The authors should note that *distichiasis* is the correct term, not "districhiasis"; the derivation of the word has nothing to do with that of trichiasis.

The second chapter, on neoplasms, is also excellent. Primary and metastatic new growths and cysts are adequately discussed, the only noteworthy omission being the extradural tumours of the optic nerve. Otherwise every growth of importance has been passed in review, some of the rarest manifestations being mentioned as exhibiting evidence of points important in the general pathology of the eye—e.g., melanotic carcinoma of the ciliary body. Derangements of the vascular systems of the eye include diseases of the vessel walls and their results, diseases due to changes in the blood, toxic amblyopias, and glaucoma. The anatomical part of the section on glaucoma is admirable, but we think that the description of the mechanism for the maintenance of the normal intra-ocular tension requires further elaboration. The authors draw a sharp distinction between "the lymph and the intra-ocular fluid." The latter is the fluid contained in the aqueous and vitreous chambers, and is a definite "secretion modified by the lining epithelium of the ciliary body." Most authors agree that it is lymph, even though it be modified in the manner suggested. The subject is of such surpassing importance in the pathology of glaucoma that it demands very precise and exhaustive treatment, even in a student's text-book. The pathology of increased intra-ocular tension is treated on the familiar lines of the theory almost universally accepted. A short section is devoted to the rationale of the treatment of primary glaucoma. Injuries and wounds of the eye are thoroughly discussed, their importance from the clinical, and especially the operative, point of view being particularly borne in mind.

The chapter on inflammation commences with a most useful review of the changes common to all inflammatory processes. There is a lucid account of the part played by the blood serum, and the many awe-inspiring terms adopted by modern pathologists are fully explained. The cytology of conjunctival inflammation incorporates Mr. Mayou's own work previously published as Hunterian Professor of the Royal College of Surgeons of England. The remainder of this chapter dealing with iridocyclitis, retinitis, and so on, is not quite up to the standard of the other chapters. The parasitic diseases of the eye, including bacteriology, are thoroughly well discussed, as are also the degenerations which affect the various structures.

It is gratifying to be able to give such unstinted praise to the scientific value of this work. The numerous mistakes of

grammar and punctuation, however, seriously detract from the ease and pleasure of reading it. We hope that this blemish will be removed in a future edition. The illustrations and printing are excellent.

Fortschritte der Naturwissenschaften Forschung. Herausgegeben von Professor Dr. E. ABDERHALDEN, Berlin. Dritter Band. Mit 153 text abbildungen. Wien: Urban and Schwarzenberg. 1911. Pp. 352. Price, paper, 16 marks; bound, 18 marks.

WHAT strikes one about this, the third, volume, describing the progress of recent investigations in natural science, edited by Professor Abderhalden, of Berlin, is that such a work would hardly find so large a reading public here as it apparently does in Germany. Even unbound it costs 16*s.* It deals with five subjects which have not much in common. It touches things aerial and things terrestrial.

Privat-docent Dr. A. Wegener, of Marburg, in about 70 pages deals with the recent results obtained in what is a new and vigorous department of meteorology—a department that had its genesis only 20 years ago, but is now a substantial section of meteorology, and is dignified by the name of aerology. The modern methods used for obtaining a knowledge of the condition of the higher atmosphere, such as the varieties of balloons and kites which are in use, are described and illustrated. The temperature, moisture, and other conditions of the upper air are described, cloudland is studied and illustrated, and the whole problem of the physics of the upper atmosphere is fully discussed. Some of the views of clouds as photographed from cloudland are excellent. Next W. Johannsen, of Copenhagen, gives in about 65 pages a very circumstantial account of recent experiments in relation to heredity, including details of his own work on pure strains of beans and other plants. The work of Galton, of Karl Pearson, and others, is passed in review and criticised, and so is that of Darwin. Mendel's work is dwelt on and its importance in relation to the Darwinian hypothesis is pointed out. The zoological aspect of the question is illustrated by observations made on certain forms of water fleas, such as hyalodaphnia. It is impossible to summarise the author's views in a few lines, so that we must refer the reader, and especially the botanical reader, to this highly interesting and technical account of the problems of heredity. The zoologists also will be interested in the results obtained by crossing examples of the obstetric toad (Alytes)—results which can now be explained on Mendelian principles.

About 80 pages are devoted to the history, evolution, and present position of wireless telegraphy and telephony, by G. Eichhorn, of Zürich. This again is an interesting and very technical subject. M. Rikli, of Zürich, deals with the geographical distribution of plants, and remarks that though herbaria were collected, labelled, and described long ago, and the utilitarian aspects of plant life were studied, the geographical distribution of plants is only a comparatively recent subject of scientific investigation. Its founder was Alexander Humboldt (1769–1859), who published his "Essai sur la Géographe des Plantes" in 1805–06. M. Rikli's interesting essay deals with such subjects as heat, moisture, light, wind, condition of soil, and so forth, as they influence plant life over the globe. It gives an excellent summary of the subject dealt with.

Professor H. Klaatsch, of Breslau, promises a series of articles on the origin and transmission of special human characteristics, and in a short paper begins his contributions with "The Story of the Hand." Going back to the geological record to the study of fore-foot prints in the primary and secondary rocks, he begins with the footprints of Cheirotherium, and proceeds to trace the evolution of the human hand from the point of view of the comparative anatomist. Where is Paley's doctrine? The treatise on the hand by Sir Charles Bell will still continue to charm the reader, if such there be in these days. Man is the only primate which has retained the thumb in its complete development. The gorilla in this regard comes close to him, but here the thumb has undergone a relative shortening. This is a most interesting and suggestive communication.

To each of the papers is appended an excellent bibliography.

Modern Methods of Sewage Purification. By G. BERTRAM KERSHAW. With tables, illustrations in the text, and 36 plates. London: Charles Griffin and Company, Limited. 1911. Pp. 356. Price 21*s.* net.

THE attitude which the author adopts in regard to the great problem of sewage purification and disposal will be endorsed by all those who realise the peculiar difficulties of the subject. As he says, "Sewage treatment does not lend itself to patents," by which he means that there can be no best method of sewage disposal which can be universally adopted regardless of local conditions. Innumerable and valuable patents there have been and are, however, which of course have helped in the stages of general methods, but "there are many methods, each one of them good in its own particular way, when properly designed and when suited to the local circumstances." It is exactly these "local circumstances" that keep one sewage method short of universal application and that add to the complexity and perplexity of all problems connected with the treatment and disposal of sewage.

What Mr. Kershaw has to say will be listened to with every attention, because he has been in close practical contact with the many and varied phases of the subject for several years, and his views have been made more authoritative by his connexion for 12 years as engineer with the Royal Commission on Sewage Disposal. The work of that body has been extremely valuable, and when completed will remain a source of reference on the subject which can have no rival for a very long time. In the present volume the subject is approached chiefly from the engineering point of view. Mr. Kershaw refers his reader to the special books upon the question of the chemical and bacteriological purification of sewage, and after a most interesting chapter on the history of sewage treatment he proceeds to describe some of the more efficient methods of sewage disposal in use at the present day, while discussing at some length the practical and financial points which require consideration. He misses no detail in his account of the various processes described, and a valuable feature of the work is the emphasis he gives to his words when he is discussing points which he holds from experience to be essential to success. Valuable, also, are the references to adaptability of various schemes to different places, examples being given in the chapter on "Purification Works in Actual Operation." The chapter on trade wastes brings out the difficulties which the sewages of industry present in regard to effectual treatment, and shows how these difficulties have so far been dealt with. His suggestion in a miscellaneous chapter of the desirability of a central authority being created, which should be able to make an investigation, when it is required, for several authorities or manufacturers, at the expense of the authority and not at that of the ratepayers of the particular town or of the manufacturer, is to the point, and worth careful consideration. As he says, "At present one of the greatest stumbling blocks to progress in the purification of sewage and manufacturers' wastes is lack of knowledge. The local authority or manufacturer, as the case may be, is told, 'You must discontinue this pollution,' frequently without any intimation of the direction in which the remedy is to be sought.

The central authority should point the way out and bring about a decisive and satisfactory issue.

The book is sure to be favourably received by all those interested in the advances of this most important branch of sanitary science.

Clinical Immunity and Sero-Diagnosis. By A. WOLFF-EISNER, M.D. Berlin. Translated by RAY W. MATSON, M.D., Professor of Histology, North Pacific College of Dentistry and Pharmacy, &c. London: Baillière, Tindall, and Cox. 1911. Pp. 184. Price 7*s.* 6*d.* net.

THE author records in the preface to this work that it is intended to "establish a connexion, previously lacking, between biology ..... on the one hand, and the clinic (particularly general practice) on the other." He states that his "venture was unprecedented," meaning apparently that there was previously no book available in Germany which set forth the theory of immunity in easily intelligible language. In our own country several books of this nature have been available for some years. Nevertheless, we welcome the translation of Dr. Wolff-Eisner's book, as it contains much of interest. Its principal thesis is the attempt to explain the phenomena of infection and immunity in terms of the discovery that a foreign albuminous substance brought into contact with the cells of a living body gives rise to the production of lytic substances, which tend to break it up. The symptoms of bacterial infection are thus attributed to the action of the body-substance of the organisms which are broken up by bacteriolysis, and we are introduced to the apparently paradoxical view that it is only by the death of the bacteria that the sickness and possible death of the host are caused. The crisis of an infective disease is due to sudden bacteriolysis, since a large dose of the toxic substance produces a fall of temperature, whereas a small dose gives rise to fever. (But why should the destruction occur suddenly and not in gradually increasing amount as the lysins are generated?) Similarly the exanthem of an infective fever is due to freeing of toxic albumin by lysis of bacteria, and the action of tuberculin is explained as due to the introduction of an antigen in presence of the lysin capable of disintegrating it with formation of toxic derivatives. Other diseases capable of explanation on the same lines are asthma and urticaria, in both of which the symptoms are due to the action of poisonous albuminoids on the vasomotor system; also eclampsia, which is associated with absorption of placental villi and resulting anaphylaxis. The author throughout sets forth his own views rather than those generally accepted; indeed, he quotes his own published works to an extent which becomes somewhat tiresome. It is possible that he attributes to his own observations greater importance than is generally admitted, and wishes to correct a possible lack of appreciation.

The book may be read with interest and advantage by those who are familiar with the subject of immunity and who can correct one-sided statements with the necessary pinch of salt. The author's views are fresh and stimulating; time alone can show the exact degree of truth underlying them.

Handbook of Electro-therapeutics. By WILLIAM JAMES DUGAN, M.D., Lecturer on Electro-therapeutics at Jefferson Medical College, &c. Philadelphia: F. A. Davis Co. Pp. 242. Price 8*s.* 6*d.* net.

THIS should prove a useful handbook, seeing that it occupies a place more or less midway between the large work which most medical men find too long to read and the small one that is intended more for the use of students. The author has carried prudence very far in that he has confined himself to so much of the subject as we can be reasonably sure of, and has carefully avoided touching on the more debateable points.

As the book is intended primarily for those who know little or nothing of electricity, the preliminary chapters are given up to more or less elementary principles and considerations. Chapter III., on static electricity, is one of the best in the book, though the difficulties attendant upon the use of static machines in a climate such as ours deprives it of practical interest to many of our readers. Subsequent chapters treat very clearly of faradic currents, electrical testing, electrolysis, and cataphoresis, though we think the author should have gone more fully into the latter subject, considering the great advances that have been made in this direction in recent years.

With regard to the application of high-frequency currents, the author does not hold out undue encouragement, and while he gives directions for their use in several specific conditions, he adds little reason to think that any great good will result, and in many of these conditions he is careful to say that medical treatment should also be employed. He has, however, found the method of great use in acne, nasal catarrh, insomnia, and some forms of neuritis. Towards the end of the book there are short chapters on magnetism, or rather treatment by means of magnetic waves, and also on light and heat therapy. The work closes with a comparatively full dissertation on the advantages of electrocution over hanging in dealing out the death penalty.

The book is very fully illustrated, but the author might have used more original illustrations and fewer illustrations derived from the electro-medical instrument manufacturer. Further, the reason for introducing illustrations of X ray apparatus and radiographs is not quite obvious, seeing that the subject of the X rays is scarcely referred to in the text. The radiographs are of very indifferent quality, and why they should be described as "Campbell radiograph of elbow," "Campbell radiograph of hand," and so on is not apparent. Of the series, Fig. 70, an antero-posterior view of the ankle, is described as "Campbell radiograph of wrist"! These pictures should be deleted in future editions, and no doubt other small defects will then be rectified. The main idea of the book is good, and on the whole it has been well carried out. For these reasons we have no hesitation in recommending it to those who are inclined to take up this branch of medical work. None the less some revision would be salutary.

LIBRARY TABLE.

Common-Sense Dietetics. By C. LOUIS LEIPOLDT, F.R.C.S. Eng. London: Williams and Norgate. 1911. Pp. 243. Price 2*s.* 6*d.* net.—Within the limits of a handy volume Mr. Leipoldt has brought together all that the ordinary man needs to know on this subject, which he has dealt with not so much from the professional or scientific standpoint as from that of the intelligent layman who wants to know the reason for this, that, and the other dictum in dietetics. It will also be of interest to the gourmet, who will here find rational explanation for many culinary practices and prandial rites and customs. An outline is given of the general principles of dietetics and the physiology of digestion; also of the composition of foodstuffs and the methods of their preparation. Dietetic fads and fallacies and the true art of dining are treated of with expert knowledge and sound sense. In the table of standard diets we notice an omission of any British scale more recent than Playfair's. The statement (p. 20) that the large intestine is "merely a reservoir," implying that it has no important digestive function, is hardly in accordance with the teaching of the present day. The author properly distinguishes between the *gourmand* and the *gourmet*, and introduces us to the "gastrosoph, the dietetic artist, the expert who knows how to eat, when to eat, and what to eat." As to alcohol, he is far from being a prohibitionist, and is,

indeed, fully alive to the attractions of good wine, but he prefers to say that alcohol taken in moderation at meals is "not detrimental" rather than to assert that it is "a distinct help" to digestion (p. 38). He is no vegetarian, believing that a purely vegetable diet is not desirable for anyone who, as Thomas Walker, of *The Original*, said, "knows how to dine so as to preserve the maximum enjoyment with the greatest advantage to health." But the use of fruit should be much more extensive than it is, and we believe many busy men would be the better for taking Mr. Leipoldt's "ideal summer lunch" of a bunch of Malaga raisins and a tumbler of milk instead of the ham sandwich and glass of beer or the solid midday meal. The author is against all fads, whether those of vegetarians, fruitarians, or others. Brain-workers, he finds, do not require a large amount of phosphorus in their diet; concentrated or predigested foods are not more nutritive than ordinary articles well prepared; neither does he believe in the value of a purin-free dietary or of "standard" bread; a middle position is taken as regards alcohol, the author's inference being that alcohol, taken in small quantities, is a valuable dietetic aid, but no more a food than a tablespoonful of jelly is, yet as much a food-sparer as the latter, and with a definite place in the dietary. This appears to be the author's considered opinion rather than the contrary statement on p. 38. Mr. Leipoldt has not always verified his references. Johnson is quoted as saying that "the drink for heroes is whisky"; what the sage did say was, "No, sir, claret is the liquor for boys; port for men; but he who aspires to be a hero must drink brandy." In the chapter on the Art of Dining the author presents several specimen menus for our instruction. He quotes Walker's "ideal dinner for a party of eight on Christmas Day" as turtle soup, whitebait, grouse, apple fritters and jelly, ices. Whitebait Mr. Leipoldt condemns because it is not at its best in December; but Walker ordered the dinner "this very day at Lovegrove's, at Blackwall, where, if you have never dined, so much the worse for you," and the date was August 26th, 1835 (see *The Original*, No. XV.). Despite a slip or two we are grateful to the author for good advice on the art of dining and information about famous diners. The "note" of the book, as indicated in the title, is common sense.

Through India and Burmah with Pen and Brush. By A. HUGH FISHER. London: T. Werner Laurie. Pp. 358. Price 15*s.* net.—Mr. Fisher has been about the world a good deal, and is able to recount his experiences in a pleasing fashion without any fine writing. He first went to Burmah, and ascended the Irrawaddy as far as Bhamo. He gives a good description of the deserted ancient city of Pagan, which he calls the "Dead Heart of a Kingdom." After a flying visit to Madras and the South of India he went to Calcutta. The description of the visit to the Hindu theatre is amusing. Few Europeans interest themselves in the Beadon-square neighbourhood, or in Bengali theatrical entertainments. After Darjiling, Benares, Lucknow, and Cawnpore, Mr. Fisher went to Fatehpur Sikri. This wonderful dead city does not seem to have made any great impression, and we are not given a single picture, plain or coloured, of its many architectural features; not even of that magnificent Buland Darwaza, or Sublime Porte, 160 feet high, surely the greatest gateway in the world. Mr. Fisher then continued his journey up country from Agra, through Delhi, Amritsar, and Lahore to Peshawar, afterwards visiting Quetta, Jaipur, and Udaipur. We should have liked to learn what were the most vivid impressions the artist-author carried away with him from his rapid but comprehensive survey. Perhaps it was too kaleidoscopic. The coloured reproductions of his painted sketches are particularly successful, and give an excellent idea of the vivid hues and sharpness of outline characteristic of tropical landscapes. Rohri and Sukkur are hot enough, but the engineer must have been "pulling the artist's leg" when he assured him that the thermometer reached 240° F. in the shade at either of those places (p. 281). No such shade temperature has ever been recorded in India. Mr. Fisher concludes with the expression of his opinion, in regard to the future of India, that a distinction must be made between the extreme claims of enthusiasts and the reasonable progressive changes warranted by a gradual advance of education and increase in religious tolerance, as well as between the irritation of dissatisfied place-hunters and the mature opinions of enlightened Indians in positions of trust and authority. Lastly, in its efforts to make a nation out of a tangle of many States and peoples, England must never forget the tremendous power it has gradually gained to influence the liberty and progress of the world, and that "no part of that power can ever be yielded up, save as the shameful shifting of a burden it is our noblest privilege to bear." This is a weighed and judicious expression of opinion which will commend itself to careful and discriminating thinkers. The author seems to us to lapse from good taste in his anecdote on p. 213.

Modern Medical Opinions on Alcohol. Being a Series of Lectures delivered by well-known Medical Men. London: Church of England Temperance Society. Price 1*s.* Pp. 129.—This little book is a collection of 14 short papers and addresses by well-known members of the profession on the physiological and pathological effects of alcohol. Sir Frederick Treves introduces the subject. Sir Thomas Barlow speaks of intemperance among women. Sir James Crichton-Browne advises students who aim at efficiency to place every form of alcohol on their *index expurgatorius*. Sir Victor Horsley maintains that "alcohol depresses the vital activity of the human body, and therefore cannot possibly be regarded as a food." A very good and practical address is that of Dr. Ettie Sayer on the Prevention and Cure of Intemperance, as is one by the late Dr. George Carpenter on Alcohol and Children. The manual is free from exaggeration, and would be of great use to anyone desirous of informing himself of the views of leading physicians on this subject.

The Bellevue Hospital Nomenclature of Diseases and Conditions, with Rules for the Recording and Filing of Histories. Compiled by the Committee on Clinical Records, composed of ROBERT J. CARLISLE, M.D., WARREN COLEMAN, M.D., THOMAS A. SMITH, M.D., and EDMUND L. DOW. Adopted by the Board of Trustees, 1903. Revised and made to Conform to the International Classification, 1911. Copyright, 1911, by the Board of Trustees of Bellevue and Allied Hospitals, New York. Pp. 323.—This small book presents the nomenclature of disease employed by the Bellevue Hospital, New York, for recording and filing the records of its cases. It has been designed for convenience of storing records, making references, and acquiring mortality and morbidity statistics. The present edition represents the third revision of the nomenclature, and it has been brought into accord with the international list of causes of death by prefixing to each of its terms the proper international title-number. The general principles of the system of records adopted by the Bellevue Hospital authorities are first explained. The directions given appear to be admirably systematic and calculated, if efficiently followed, to yield valuable material for statistical investigations. The nomenclature itself is first expressed according to the system or organ diseased or injured, the individual conditions being arranged in alphabetical order; then we have the order under the titles of the international classification. An alphabetical index is then given. In this way the names of the individual conditions are given in three different categories, and reference to any given

disease or injury and the determination of its position in the classification are facilitated. The orthography is stated to conform to that recommended by the Basle Anatomical Nomenclature and is endorsed by the Committee on Nomenclature of the American Medical Association. For the most part it is identical with that current in this country, though "septichæmia" has an unfamiliar appearance and enforces a new pronunciation. We are glad to find that proper names appended to diseases are but little used, the only examples we have found being Mikulicz's disease, Hodgkin's disease, Morvan's disease, and Werlhof's disease. The book is well produced, is of convenient size, and offers a practical and carefully-worked-out scheme of nomenclature and classification which should be useful if generally adopted in the collection of records in hospital or private practice.

JOURNALS AND MAGAZINES.

Man.—In the December number of this journal Dr. Jos. Maes, keeper of the ethnographic section of the Congo Museum in Belgium, contributes an account in French of a collection made by Dr. Mordiglia. These objects belonged to a *fétiche*ur, and most of them were naturally supposed to possess magical powers; besides these there were several intended for use in the treatment of diseases and injuries, including samples of native medicines; several boxes or cases for holding medicines and surgical instruments; a calabash used as a cupping instrument, in which the *fétiche*ur produced a partial vacuum by sucking with his mouth; another calabash filled with fluid and fitted with a nozzle for introduction into the bowel, after which the *fétiche*ur administered an enema by blowing into another aperture in the gourd; a splint for fractures, made of parallel strips of bamboo laced together with vegetable fibres; a sharp iron instrument for bleeding and tattooing; slips of quartz shaped for filling the teeth; and a notched iron instrument which could be used either for breaking off portions of a tooth or for an extraction.

School Hygiene: A Monthly Review for Educationists and Doctors. London: Magazine and Publication Syndicate, Limited. Price 6*d*.—This magazine will in future appear as a quarterly journal, and will no doubt maintain the high standard of interest its articles have always had for the growing number of men and women—doctors and others—connected with, and interested in, the health sides of school life. The November number contains, among other things, the conclusion of a paper by Dr. F. C. Shrubsall on the examination of Mentally Defective Children, which should prove of great practical assistance to doctors and teachers alike. The December number has an elaborate and interesting paper on Poliomyelitis in Relation to the Spread of Infection by Schools by Dr. F. E. Batten, and a discussion on this paper by the Medical Officers of Schools Association. Miss A. C. Sewell has a stimulating article on How to Use School Playgrounds, in which she gives some of the results of her splendid work in this field.

ROYAL LONDON OPHTHALMIC HOSPITAL.—The sixth annual dinner of the past and present students of this hospital will take place at the Imperial Restaurant, Regent-street, London, W., on Wednesday, Feb. 7th, at 7.45 for 8 o'clock. Mr. F. Richardson Cross will take the chair. Each student is entitled to introduce two guests. Tickets (price 10*s*. 6*d*. each, exclusive of wine) may be had on application to either of the honorary secretaries, Mr. Arnold Lawson, 12, Harley-street, London, W., and Mr. J. Herbert Parsons, 54, Queen Anne-street, London, W.

Reports and Analytical Records
FROM
THE LANCET LABORATORY.

REAGENTS FOR USE IN THE WASSERMANN SYPHILIS REACTION.

(A. AND M. ZIMMERMANN, 3, LLOYD'S-AVENUE, LONDON, E.C.)

WE have received from the above firm specimens of the reagents used in the Wassermann reaction which are prepared under the supervision of Professor Wassermann himself and independently examined by Dr. Meier. The reagents represent the same as those used by Professor Wassermann in his own clinic. The series sent to us comprised 1 cubic centimetre of hæmolytic amboceptor, 1 tube (5 sera) antigen (alcoholic extract of syphilitic liver), 1 positive standard serum, 1 negative standard serum, 1 envelope hæmolytic amboceptor, and 7 cubic centimetres sheep's blood corpuscles. Instructions for use are issued from the bacteriological and serological department of the Pharmaceutical Institute of Ludwig Wilhelm Gans, Frankfort-on-the-Main.

(1) IODOSTEM; AND (2) STEM.

(R. LANE HALL AND CO., 4, LLOYD'S-AVENUE, LONDON, E.C.)

Iodostem is a thick syrupy fluid obtained by the concentration of grape juice. It contains iodine combined loosely with tannin, so that the iodine is available for administrative purposes without the disagreeable effects of iodine in the free state. It has been employed in disorders of the lymphatic glands as well as in gout, rheumatism, and tubercular affections. Stem itself is a clear pure grape juice, a pleasant slightly acid liquid which forms an agreeable beverage when diluted with either plain or aerated water. On analysis the following results were obtained: Total solid matters, 18·65 per cent.; grape sugar, 15·20 per cent.; acidity reckoned as tartaric acid, 0·45 per cent.; and salts, 0·30 per cent. We could find no preservatives, while the iodoform test showed almost complete absence of alcohol.

GENUINE HOLLANDS (DE KUYPER'S).

(JOHN DE KUYPER AND SON, ROTTERDAM. LONDON AGENCY: 6 AND 7, GREAT TOWER-STREET, E.C.)

This spirit bears all the evidence of a correct description. It is stated to be distilled from genuine malt liquor with the juniper berry, the oil of which contributes to some extent to the peculiar flavour. There is an advantage undoubtedly gained by distilling the berry with the spirit; the resulting product is mellow and free from harsh flavour. A simpler method, of course, is to add the oil. On analysis the spirit gave the following results: Alcohol by volume, 47·13 per cent.; proof spirit, 82·59 per cent.; extractives, *nil;* mineral matter, *nil;* and volatile acid reckoned as acetic acid, 0·012 per cent. The secondary products in parts per 100,000 of alcohol present were as follows: Aldehyde, 8 parts; furfural, 9·3 parts; ethers, 67 parts; and higher alcohols 237 parts. The amounts of secondary products show that the spirit is produced in the classic pot-still, so that the volatile flavours of the materials are retained. On extracting the spirit with petroleum ether a definite quantity of juniper oil was obtained. It will be remembered that juniperi oleum is official in the British Pharmacopœia and is described as carminative, anti-spasmodic, and a stimulating diuretic, the last-named property constituting its chief medicinal value. In some text-books it is mentioned that juniper is conveniently given in the form of hollands or gin. De Kuyper's hollands is still made after a formula which is over 200 years old, and our analysis establishes the genuineness of the product.

NOVOFORM (HAYDEN).

(AGENCY, H. W. BLASIUS, 127, FENCHURCH-STREET, LONDON, E.C.)

Novoform is introduced as a new odourless antiseptic. We have examined a specimen, and find that it is a fine dull yellow powder quite free from smell and insoluble in water. It is a combination of bismuth oxide with tetra-pyro-catechin, an aromatic antiseptic containing bromine. We had no difficulty in expelling bromine from the compound or in identifying the presence of bismuth. Its important properties are that it is antiseptic and exsiccative, and is valuable, therefore, in suppressing or preventing suppuration. It is said to be non-poisonous, and is apparently an excellent substitute for iodoform for the reasons just stated.

VARIOUS BOTTLED FRUITS.

(D. E. TOWER, F.R.H.S., THE HILL FRUIT GARDENS, PERSHORE.)

The excellence of these preserved fruits shows that the simple process adopted is a success both from an æsthetic and a hygienic point of view. No time is lost in consigning the picked fruit, which has been selected as sound, to the bottle. There is thus very little opportunity of contamination or undesirable fermentative changes. The soft fruits are bottled direct from the trees or bushes; after bottling they are carefully pasteurised and then they keep (according to the excellent samples we received) in good condition. The natural colour is also preserved. The raspberries were particularly attractive in this direction. We could find no trace of metal or of chemical antiseptics.

SCOTCH WHISKY (THE HUNTING SQUIRE BRAND).

(WALTER BALLANTYNE AND SON, ST. BOSWELLS, SCOTLAND.)

The mellowness that comes from storage is a characteristic of this spirit. According to our analysis it is a blend, but possesses a marked flavour of malt. The results of analysis were as follows: Alcohol by volume, 44·78 per cent.; extractives, 0·230 per cent.; mineral matter, 0·01 per cent.; volatile acidity reckoned as acetic acid, 0·018 per cent.; and fixed acidity reckoned as tartaric acid, 0·015 per cent. The extractives are a little higher than is generally the case, owing, doubtless, to maturing in wood. The secondary products in parts per 100,000 of absolute alcohol were as follows: Aldehyde, 11·40; furfural, 1·13; ethers, 51; and higher alcohols, 140. When whisky is permissible for dietetic purposes a spirit of this smooth mature character is an advantage.

(1) FERROSAJODIN; AND (2) TUBERCULIN A. F. (ALBUMOSE-FREE TUBERCULIN).

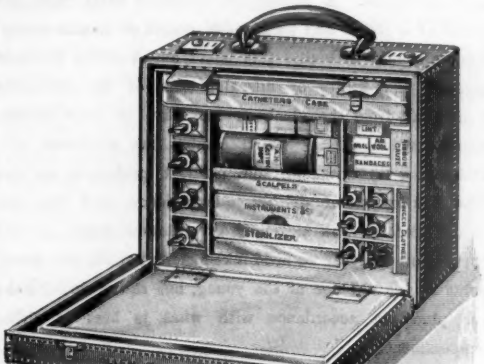
(MEISTER LUCIUS AND BRÜNING, LIMITED, 3, JEWRY-STREET, LONDON, E.C.)

1. Ferrosajodin is regarded as an advance upon syrupus ferri iodidi, inasmuch as both the iron and iodine in it are exhibited in forms which do not give rise to the objectionable disturbances common to ordinary iron and iodine compounds. Ferrosajodin is tasteless; it is without discolouring effect upon the teeth; is free from irritating effects upon the digestive tract, and keeps unaltered or unoxidised when exposed to the air. We have examined some chocolate tablets containing the compound. Ferrosajodin contains about 5·6 per cent. of iron and 25 per cent. of iodine. The iodine, we found, is readily expelled on treatment with nitric acid. Sajodin is the calcium salt of mono-iodobehenic acid (iodo-sebacic acid) and was described in our analytical columns in THE LANCET, May 5th, 1906. Its combination with iron suggests its useful application in the treatment of scrofula, chlorosis, anæmia, and cachectic conditions, and good results have been reported. 2. Tuberculin A.F. is prepared from the bacilli cultivated in a special nutrient medium consisting of inorganic salts and citrates, the sole nitrogenous food present being asparagin. There is no addition of albumose, peptone, or nitrogenous extractive matters derived from flesh or blood. It is stated that the advantage of Tuberculin A.F. over the older Koch's preparation consists in the strictly specific character of the reactions induced by it, and that anaphylactic symptoms are excluded in consequence of the absence of non-specific proteins. It may be used for both diagnostic and therapeutical purposes. We found that bromine water gave an opalescence but no precipitate. Alcohol did much the same thing, while when the fluid was saturated with zinc sulphate it remained clear. These results prove the absence of peptones and albumoses, as is claimed to be the case.

New Inventions.

ASEPTIC DRESSING CASE.

THE appended sketch displays a surgical dressing bag which will appeal to the majority of busy practitioners on account of its carrying capacity and general utility. It is evolved from the brief bag, into which instruments and dressings are often thrown at haphazard, but which has proved quite inadequate in these times when the principles of asepsis are understood by our patients no less than by ourselves. Use has proved it efficient; it enables the surgeon to dress cases or to perform minor operations aseptically. Essentially a metal case, for convenience carried in a leather attaché case, it is divided into compartments for bottles, dressings, and instruments, viz.: Four 3 oz. bottles for ether soap, lysol, sp. vini rect., lotio plumbi cum opio; five 2 oz. bottles for ac. carbolic, antiseptic cream, vaseline,



powder, and so forth; stoppered tubes for suppositories, tablets, adrenalin, argyrol (six of these occupying the space of one 2 oz. bottle); compressed dressings, bandages, at one side a narrow space for finger cloths; steriliser, 8 in. by 4 in. by 2 in. of usual pattern; metal box 8 in. by 4 in. by 2 in., holding instruments, needle box, tube of ligatures and sutures; and catheters, uterine and other long instruments in a case, 13½ in. by 3½ in. by 1 in., running the whole length of the bag. There is room in the central part of the bag for vaginal specula, battery, and head light, or extra dressings.

Messrs. Allen and Hanburys, Limited, of 48, Wigmore-street, London, W., have taken considerable trouble in making this case exactly to my instructions.

Folkestone. W. W. LININGTON, F.R.C.S. Eng.

THE LANCET.

LONDON: SATURDAY, JANUARY 6, 1912.

A Nonagenarian.

DURING 1912 THE LANCET will enter upon the ninetieth year of its existence, and the temptation is strong upon us to suggest that we should not have lived thus long if we had not lived fairly well. Perhaps if we felt old some garrulous reflection upon bygone efforts would escape us at this date, though struggling to preserve modesty. But we have no sense of the weight of years. To the young the New Year is essentially a period of resolution, hope, and promise, and we are more in touch with this attitude. A newspaper which represents the vital interests of a progressive profession, so long as it represents them truly, can neither be called old nor young; whatever its actual years, it is the age of that profession, whose past it has to reckon with, whose present it lives by recording, and whose future it strives to assist. "Si la jeunesse savait, si la vieillesse pouvait," that most used tag by all who write, suggests the impossibility of attainment in human affairs to any working blend of youth and experience. A newspaper, which is itself part and parcel of a living and progressive section of human energy, has the chance to realise this blend, and however far short through any frailty or miscalculation of its conductors it may fall from the ideal, it must have as many circumstances which aid as which combat the ambitious aim. Thus from the past of the medical profession we can draw the lessons of deliberate experience, and from the present receive the messages of valorous hope. At the opening of this year we need take exactly neither the standpoint of the old nor of the young, but rather would make our plans in accordance with what is best in either temperament.

The science of medicine, although in one sense enormously old—as old indeed as any race or tribe of man—is not a very ancient branch of human achievement as we know it. Where the records of civilisation extend back we find always traces of definite and accurate medical learning, and some of these traces indicate extraordinary intellectual acumen on the part of those original votaries of our science. But the skill of this or that nation in this or that pathological direction was largely lost as a benefit to the world by the absence of common principles and the instability of basic knowledge. In the result, as all our readers know, the systems of ancient medicine stood still at certain points, and during many hundreds of years no man could say that general progress of any kind had been made. There was little continuity of attempt and almost no consensus of design, so that either by independent labour or by rediscovery of buried lore the nations of the earth arrived, and arrived again after vast intervals of time, at much the same station in the course. Then, and in comparatively recent days, great physical and physiological truths threw a light upon the learning of the past, revealing some of the most ancient procedures as justified by science, and exposing others, perhaps more venerated, as vestiges of vulgar superstition. The good has been kept and the falsehood has been rejected, and to such parts of the older learning as would stand the severe tests of real science vast stores of information have been added under the improved conditions. Partly by the insight of a few leaders has this been done; partly by the faithful work emanating from the body of medicine as a whole; and partly by the growing wisdom of the world, which, returning in a practical form to philosophic dreams, has begun to realise in the interaction of various branches of knowledge that there is not one wisdom of the chemist, another of the botanist, and another of the pathologist, but that the wisdom of all is one. The principal advances of medicine lately have been due to the fact that provinces near to the medical borders, which seemed to be required by the medical estate, have been assimilated, and that medicine has learned to rule them and has thriven out of their produce. Now much of such development of medicine has taken place within the life of THE LANCET, and during the whole period we have attempted to describe the actions of the leaders, to mirror the good work of the rank and file, whose general experience is sublimated into the essential quality of their leaders' exploits, and especially to chronicle the growth of medicine as an acquisitive science, making magnificent raids upon territories apparently allocated to other possessors, and retaining peaceful possession of the conquests. We can look back upon such labours from a respectable position of maturity, but we prefer to look forward to the countless opportunities that are unrolling themselves in which we may serve medicine in a similar manner through its majestic developments.

And as we have tried to record the scientific progress of medicine, so we have tried to record the position of those who practise it, their professional needs and aims. At this moment in the material history of the profession of medicine there is the greatest need—never has there been greater—for looking facts squarely in the face and for seeing that the action taken upon those facts shall be taken for the national good by a highly educated class, which is always forced by circumstances, as well as guided by disposition, towards altruistic endeavour. If this class is to discharge its high responsibility in accordance with the conception which it has always had of its duties, it must undergo a long, arduous, and expensive training, and, again, must have proper opportunities accorded to it for carrying on work whose routine is arduous, delicate, and complicated. It will be our duty in the struggle which seems imminent to keep the attention of our readers fixed upon the principles involved, to resist in their name social and political movements which threaten the scientific and material position of those who practise medicine, and to support the extending movement of the medical profession towards a common demand for justice.

Optimism in Medical Practice.

"I HAVE always observed," wrote the late Sir WILLIAM HARCOURT, "that good physicians are optimists," and the observation is at least equally applicable to good surgeons, no distinction probably having been intended. We do not use the word, nor presumably did Sir WILLIAM HARCOURT, in its philosophical sense, as indicative of a follower of LEIBNITZ, or even of POPE'S travesty of his doctrines, rather than of SCHOPENHAUER or of HARTMANN, but in the more obvious one which indicates a person whose disposition it is to hope for and expect the best, or to look on the bright side of things rather than on its reverse. We are all familiar, in daily life, with the wholesomely stimulating effect of the optimistic point of view; and, even granting that it may sometimes, or even often, lead only to disappointment, most people will clearly be the better for the effort which it induces them to put forth, and will be more capable of "trying again" when next the opportunity is afforded them. In the sick room, the optimism of the physician or the surgeon, as expressed in countenance and manner, conveys to the patient that most comforting of all assurances—the assurance that he is not merely to be looked at, but that something is about to be *done*, and that presently, for his relief; that there is to be no passive acquiescence in his suffering or his danger, but a well-directed effort to restore him to comfort and safety. To such an assurance, springing less from words than from a certain vigilant and ready manner which is more easily recognised than described, the patient will almost certainly respond by an increase of hopefulness which in itself is a wholesolme stimulant to any powers of recovery which he may possess; and few who are conversant with sick rooms will entertain any doubt of the frequent efficacy of conditions which appeal to favourable expectation and tend to the maintenance of, at least, comparative cheerfulness. To the practitioner himself, whether medical or surgical, the reasonably optimistic frame of mind is almost as valuable, from the point of view of his efficiency, as it is to the patient; because it at once directs his thoughts to practical issues, and diverts him from the contemplation of the urgency of danger by demanding all his energies for the devising of means by which that danger may be averted. The man whose first and instinctive impulse is to act, and to act with promptitude, will always, other things being equal, be more successful than he whose first impulse is to fear that his activity may only be in vain; and even in the worst conditions, when the hope of success is almost absent, the encouragement of that which may remain will be an essential aid towards the fulfilment of one of the first duties of the practitioner—to remain calm in the presence of adversity. How many cases of apparent death from drowning, for example, have been restored to life by men whose optimism has led them to persevere in effort even when it appeared that all hope must be abandoned?

There are, however, two distinct kinds of optimism to be considered, the optimism of the energetic and the optimism of the idle; and the latter is even more certain to be disastrous than the former is to be beneficial. The optimism of the energetic leads to the practical conclusion that the patient may be cured, or may recover, on the condition that every possible chance is given to him, and that nothing conducive to his restoration is forgotten or omitted. In such circumstances optimism is merely the recognition of what may be accomplished if the most favourable external conditions are maintained; and its practical outcome should be a determination to maintain them. The possibility of doing so will depend, obviously, in many cases, upon conditions over which the practitioner can exert but a limited degree of control; and his success will be largely governed by his power to assert his influence in the sick-room, and to compel attention to even the most apparently trivial of his directions. As regards patients in comfortable worldly circumstances this power has been enormously increased during recent years by the development of skilled nursing; and there can be no doubt that the results of treatment have in a corresponding degree become more successful. Even with the aid of this most valuable adjunct, the physician or surgeon who is optimistic in the favourable sense will not allow his vigilance concerning details to be relaxed, more especially in the many cases, occurring in middle-class houses, where the nursing strength is hardly adequate to the requirements of the patient, and is reinforced by members of the family or by friendly amateurs. We once knew a country practitioner who ascribed much of his undoubted success in serious cases of illness to his habit of paying surprise visits to them at all hours of the night or early morning, and of thus learning from direct observation how far the conditions which he had prescribed had been fulfilled. He was an optimist of the first order, always cheerful, always hopeful so long as hope was possible, but fully recognising the necessity of means for the fulfilment of ends, and resolute, so far as his power of controlling events extended, that the means should be there, and should be applied in accordance with his directions. It is in this form, and perhaps in this form only, that optimism in the sick room is to be unreservedly commended. It must be guided by a realisation of one of the first results of modern scientific inquiry—of the fact, that is, that no condition capable of adversely modifying the chances of the sick is so small that it can safely be regarded as trivial. It is only when this knowledge is fully acted upon that room is afforded for the true foundation of medical or surgical optimism, which is based on another fact, that is, that only a few diseased conditions, save towards the natural decline of life, are so necessarily fatal as to exclude the hope of dealing with them successfully.

The optimism of the idle, even assuming them to be only intellectually idle, is a quality of quite a different order, and is necessarily productive of very different consequences. It is founded upon an implied belief that everything is for the best in this best of all possible worlds, and that affairs in general will come round if they are left alone. When expressed in guarded language by medical men, it is not infrequently made the foundation of wholly erroneous ideas on the part of the public; and it is usually associated with very convenient lapses of memory concerning facts calculated to shake its very foundations. Even lately it has led some people to believe that a mere period of residence in a sanatorium would "cure" most cases of pulmonary

phthisis, and that the uncured patients who came out would at once commence the diligent practice of troublesome precautions for the protection of those around them. Laziness and selfishness and dirty habits were to be cured, even when the phthisis itself resisted treatment. In the domain of surgery the optimism of the idle tends to the conclusion that this or that "will do," and hence to the neglect of the small precautions on which, in so many instances, success is dependent; while in an analogous fashion it invalidates the results obtained from a large number of so-called observations of various kinds of phenomena. In its relations to the general public it is perhaps in no way more hurtful than in its tendency to lead to hasty or mistaken diagnosis, to the belief that things are always what they seem, and that first impressions may be continuously trusted without revision or re-examination. In a word, it is the antithesis of caution, and caution is the essential condition of the ascertainment of truth, and of its detachment from the many errors which may lurk under its disguise. As FARADAY long ago pointed out, it is necessary to know all the conditions under which phenomena occur before it is possible to form a sound judgment of their nature or of the causes producing them; and the intellectually idle optimist is one who neglects this precaution, and who announces a conclusion based upon his knowledge of some of the conditions only. Such a conclusion, for example, was at the root of Sir JAMES SIMPSON'S denunciations of "hospitalism" in the early "sixties" of the last century, when he had correctly observed the occurrence of septic conditions in crowded wards, but had not observed that they might occur even in isolated patients, and that the ward, although favourable to their production, was not the true cause to which they were eventually traced by LISTER, and, indeed, did not fulfil the scholastic description of a cause, "præsens facit, mutata mutat, sublata tollit." The optimist, even when he is a man of genius, requires to be especially upon his guard against the intellectual sin of hasty generalisation, and against the practical errors which indulgence in it is almost certain to entail.

The National Insurance Act.

IN the first number of the New Year it is right that we should look ahead and endeavour to forecast the future prospects of the medical profession in its relations to the public under the National Insurance Act. This duty is an extremely responsible one, because in gauging the future we must lean to one side or the other in very arguable circumstances, and the weight of deliberate opinion, based upon or reinforced by such wide communication as we have been able to maintain with the members of the medical constituency, and expressed in circumstances when so many conflicting views have their honest and keen supporters, may seriously influence the course of events. The National Insurance Act is now law, and the three questions which go to the core of the matter are the following: What is the best that can possibly befall the medical profession under it? What is the worst that can happen? And what can be done to favour the former and prevent the latter?

The best is that under the Act the medical profession should be placed in a proper position to administer faithfully and for the public weal the benefits promised to that public. Now the Act as it stands does not secure adequate or willing medical service for insured persons; there are loopholes everywhere for the extension of abuses under which the profession has long suffered, and for injustices which have sorely tried many of our readers. As Sir JOHN TWEEDY has pointed out in our columns, it abrogates the tacit agreement of the State that those who have devoted time, money, and thought to the acquisition of professional knowledge and skill, and who have secured a legal right to practise, shall be entitled to dispose of their services as they choose. But the Insurance Commissioners have been given very wide powers, and it is claimed that they can make the Act acceptable to the medical profession. The best that can befall the profession, and therefore the public, now that the moving finger has written its message and made the Act law, is that the Commissioners should fearlessly face the situation, and so frame their regulations for medical benefits that the minimum demands of medical men are safeguarded for all time. They must be fearless, for they will have to act against the expressed views of many voters whose idea of gain for themselves appears to mean loss for medical men. If the Commissioners cannot or will not do this, then the Act stands condemned from the medical point of view. But we believe that union within our ranks in the coming months can produce an impression upon the Commissioners sufficient to ensure the adjustment of the Act to the requirements of medical men before in any locality men are asked to accept service. This is the best that the future holds in store. The worst is that an Act which is generally unacceptable to our body should none the less be accepted by individual members of the medical profession, with the result that some third-rate State medical service should be generated, which, while perpetuating and exaggerating professional evils that now exist, should afford the country no real safeguard in the intended directions. Between the best and the worst there are gradations of misfortune. But the disaster above all would be for a great and honourable profession, upon which the public depends for progress and happiness, to split up at this critical time into groups and factions. If divided counsels persist during the present year, and disunion continues, we shall look in vain to the Local Insurance Committees or to the Commissioners for satisfactory terms. The after-effects of such a defeat are too painful to contemplate.

If the best is to come to pass the profession must make ready as though for an inevitable fight, and must take its stand upon one policy. The British Medical Association is the most obvious organisation by which the profession may secure its ends. Throughout the passage of the Bill we reported and discussed the course taken by the Association, and it was apparent that we did not see eye to eye with it at every point. But in the general interest we criticised as little as possible,

our view here being exactly that of the President-elect of the Association, Sir JAMES BARR, who has since pointed out that to criticise the leaders of the Association during their work of negotiation would have been intrusive. For this reason we did not publish many ventilations of opinion received by us, which might have embarrassed the action of the Association and spread disaffection in its ranks, though we considered it right to point out, from the beginning and throughout the discussions on the measure, how great was the risk lest the profession should find itself committed to all the old abuses of contract practice. But the position became profoundly changed, when it was clear that the measure was going to pass into law without containing in a satisfactory manner the minimum safeguards to obtain which so much work and diplomacy had been employed. Thus the position of the Association became the subject of comment both within its own ranks and outside. At present there are two main policies before the profession; we shall be understood if we call them respectively the policy of the Council of the British Medical Association and the policy of Manchester. The Council would work the Act as it is and trust the Commissioners to set right any wrong. The National Medical Union would refuse to accept any appointment under it without far better safeguards than the Act offers, and a Reform Committee of the British Medical Association has now been started in London with a similar objective. It is probable that on each side there is a large body of supporters which will not fight under the flag of the other; while there are also some practitioners who will not fight at all. But we believe that the great mass of the profession wishes to stand up for its rights, being able to do so on the highest public grounds, and if they can make a fairly common cause any minority will become a negligible factor. We have always declined to associate ourselves with those critics of the policy of the Council who weaken their case by personal abuse, or who spread discord by imputing base motives to those whose opinions are at variance with their own. But we hold still, as we did after the last meeting of the Representative Body, that the Council erred in judgment. It is true that its policy was endorsed by majorities at the Representative meetings; but there is evidence that some at least of the representatives were swayed in their voting by the advice of the leaders, and it is certain that for some time past the policy of negotiation and conditional approval of the Act has been steadily losing favour with the profession, while the assurance of the Council that the Act contains no legal barriers to the fulfilment of the six-fold demand of the Association has provoked much hostile comment.

Whatever may have been the merits of the plan pursued by the Council when the Bill was before Parliament, in the present pass we place our confidence in the braver of the two policies. We feel that it reflects better the considered attitude of the profession, and believe that the Commissioners, on learning the refusal of the profession to entertain the notion of local bargaining, will realise that their duty is to save the Act by ensuring justice for medicine from the outset. The policy of the Council encourages the notion in the public mind that the profession is at bottom satisfied with the Act and is merely bluffing from commercial motives; and by its faith in the Commissioners this policy commits the profession so deeply that subsequent refusal of service on an effective scale may be impossible. Neither of the reforming organisations is a clique bent upon the disruption of the British Medical Association; each numbers many among it who would take the view that the Act could be worked by the medical profession, provided that the regulations framed by the Commissioners included from the beginning explicit guarantees against the degradation of our standards of practice, against any confirmation of the worst abuses of the club system, and against conditions of livelihood which will curtail the supply of recruits to our ranks and worsen the material from which these are drawn. We recognise that the official policy of the Association has still many adherents who are not likely to approve the forcible proposals of the National Medical Union. For the sake of that united action which is now so urgently needed the official view had better be modified, for it stands in the way of union. The National Medical Union has for its object the strengthening of the hands of the British Medical Association, and if what we have termed their policy succeeds we might arrive at the position that through the executive organisation of the British Medical Association the Government and the Commissioners could learn that the medical profession will take no further part in accepting service under the Act until it has seen the regulations proposed for the administration of medical benefits. For, as Sir ALFRED PEARCE GOULD points out in our columns this week, until the regulations have been drafted and approved, the Act lacks all definition. He desires that such definition should be formulated by the medical profession, and if the great professional corporations would lend the assistance suggested in his letter, a circumstance already realised in Scotland, the course would be welcomed. But the Act is law, and we lean, in the urgency of the circumstances, to his second proposal, which is the same as that we have already put forward—viz., that the regulations should be produced for the consideration of those who have to provide the medical benefits. This is not a wholly *non possumus* attitude, and we commend it to the serious attention of our readers.

Annotations.

"Ne quid nimis."

THE NEW YEAR HONOURS.

ONLY a few weeks have passed since the issue of the Durbar honours, and it was generally expected that the New Year's list would not be a long one. Now that the list has been issued it is seen that it is indeed much shorter than the lists which usually appear at this time of the year. The medical profession has, however, been kindly treated, as six new knights have been created in our calling and one Companion of the Bath has been added to the list. The new knights are: Mr. John Hawtrey Benson, M.D. Dub., F.R.C.P. Irel., L.R.C.S. Irel.; Mr. Robert John Collie, M.D., C.M. Aberd.; Mr. James Mackenzie Davidson,

M.B., C.M. Aberd.; Mr. George Henry Savage, M.D. Lond., F.R.C.P. Lond., M.R.C.S. Eng.; Mr. Bertram Coghill Alan Windle, M.D., B.Ch. Dub.; and the Hon. Charles Kinnaird Mackellar, M.B., M.S. Glasg. Mr. Arthur Newsholme, M.D. Lond., F.R.C.P. Lond., is the new Companion of the Bath. Sir John Hawtrey Benson is the President of the Royal College of Physicians of Ireland and consulting physician to the City of Dublin Hospital and to Monkstown Hospital. Sir Robert John Collie is medical examiner to the London County Council, chief medical officer to the Metropolitan Water Board, and examiner to a large number of insurance offices. He is a well-known authority on the subject in which he has specialised and has made a particular study of injuries in relation to accident. Among his writings on accidents and their medico-legal aspect is "Observations on 17,000 Consecutive Medical Examinations Conducted Chiefly for the Public Service." Sir James Mackenzie Davidson is consulting surgeon to the Roentgen Ray Department of Charing Cross Hospital and of the same department in the Royal London Ophthalmic Hospital. He has done some important work with regard to Roentgen ray investigation and particularly in the direction of localisation. Sir George Henry Savage is consulting physician to Guy's Hospital and to Earlswood Asylum for Idiots, and is a well-known authority on mental diseases. He was formerly physician and superintendent at the Bethlem Royal Hospital, President of the Medico-Psychological Association of Great Britain and of the Neurological Society, and is the late editor of the *Journal of Mental Science*. Sir Bertram C. A. Windle is a late member of the General Medical Council for the University of Birmingham, and is now President of University College, Cork. He is a Fellow of the Royal Society and of the Society of Antiquaries and a member of the Royal Irish Academy. He is Pro-Vice-Chancellor of the National University of Ireland, Chairman of the Standing Committee of Irish Technical Education, and a Commissioner for Intermediate Education in Ireland. The Hon. Sir Charles Kinnaird Mackellar is a Member of the Legislative Council of New South Wales and President of the State Children's Relief Board. Dr. Arthur Newsholme, who has been made a Companion of the Order of the Bath, is the medical officer to the Local Government Board, examiner in public health to the University of Cambridge, Crown nominee on the General Medical Council, and Ex-President of the Society of Medical Officers of Health and of the Epidemiological Section of the Royal Society of Medicine. He is a member of the Council of the Imperial Cancer Research Fund. His public work is well known to the members of the medical profession and needs no detailed mention from us. To each of these gentlemen we extend hearty congratulations in the name of the profession to which they belong. The name of Rider Haggard, so well known as a novelist, will also be recognised as that of an authority on the economic and social conditions of rural England. Sir Henry Rider Haggard has done useful public work as chairman of the Reclamation and Unemployed Labour Committee and of the Royal Commission on Coast Erosion and Afforestation. His report on the Salvation Army's colonies in the United States and at Hadleigh, England, which he issued, together with a scheme of National Land Settlement, in 1905, as British Government Commissioner, should be remembered for its valuable suggestions in support of the self-evident proposition that a healthy family on the land forms better national material than a sick family in a slum.

DECORATIVE SURGERY.

OPERATIONS may be usefully divided into two classes—into those which are required for the life, for the health, or for at least the comfort of the sufferer, and those which are performed merely to improve the personal appearance of the patient, if we may employ here a word which connotes suffering, though no physical pain be present. For suffering there often is, and it is none the less real though it does not happen to be physical. The distinction between the two classes of operations cannot always be drawn very clearly, for there are cases which lie on the border-line. An operation for strangulated hernia is undoubtedly an operation of necessity, and equally certainly an operation for the cure of a saddle-back nose is an operation undertaken merely in order to improve the personal appearance of its owner. In these two cases the distinction is obvious. But is the cure of a hare-lip to be considered an operation of necessity or an operation performed merely for the purpose of improving the patient's looks? A cleft palate may demand an operation for the purpose of improving the nutrition of an infant, but we doubt if any will be found to assert that a hare-lip of a moderate extent interferes with feeding. If the hare-lip is of the most extreme form, even though it is not associated with a cleft of the palate, it may certainly prevent a child from taking the breast well, but it will scarcely endanger the child's life. Yet what surgeon will hesitate to perform an operation for the cure of hare-lip? There can be no doubt that physical malformations which interfere in no way with the well-being of their possessor may yet cause an immense amount of mental torture to those who have them—an amount of mental pain which can hardly be imagined by those who are formed normally. A slight hare-lip, a nose with a sunken bridge, a nose with a bulbous end, the presence of a large mole on the face, even an overgrowth of hair on the face of a woman, may, harmless though they may be in themselves, be sufficient to make the lives of their owners intensely miserable, and may in only too many cases lead to a disinclination to appear in public, which in time will become absolutely morbid. It is easy but useless for the surgeon to tell such sufferers that the malformation of which they complain is of no importance, and that it is not worth while for them to have an operation performed. These statements, sound though they may be and supported with excellent arguments, are utterly without avail, for the sufferers know and feel that the deformity is still there and that it is obvious to others. They are, indeed, often too sensitive to the opinions of others, and they think that other people notice their malformation as much as they do themselves. It is easy to smile at this morbid sensitiveness, but it is important to recognise how vital a matter it is to those who are so afflicted. Even from a pecuniary point of view these deformities are not without importance. In several occupations a young woman will find a deformity of the face a very definite bar to employment, and she may be compelled to accept a lower rate of wages in consequence. It is certain that a servant with a hare-lip or an extensive growth of hair on the face will experience no little difficulty in obtaining employment, certainly most employers will be less willing to engage such a servant than one not so disfigured. The absence of a nose may not in the least interfere with the working powers of man, but he will undoubtedly find that it will militate against his power of getting work. This diminution in the earning capacity of those who have facial deformities is very real, and the knowledge of it, and the concomitant recognition of the fact that many people have an involuntary shrinking from those who are deformed, must

act prejudicially on the mind of the victim, and if there is the least mental instability it may suffice to upset the mental equilibrium; or if it should not go so far as this it may be enough to embitter the whole life of the sufferer, and to render him a much less useful member of society than he would otherwise be. Attempts to cure, to remove, or, at least, to mitigate, all facial deformities must be regarded as a very important part of the work of a surgeon, not so important indeed as the relief of an obstruction of the bowel, or the removal of a malignant growth, but surely as important as the remedying of a knock-knee or the excision of a lipoma. Decorative surgery is not only justifiable but is really essential for a large number of people if they are to pursue effectively the business of their lives, and we have only to determine what limits there are, if any, to surgical practice in this direction. The greatest care should be taken that the operations which may be included under the heading of decorative surgery should be conducted with all the precautions that modern science has shown to be necessary. The fact that these operations are not performed with life dependent upon them, and, strictly speaking, need not be performed at all, must not persuade the surgeon to relax his watchfulness. But the responsibility of assisting the public by cosmetic operations is upon the medical profession. If surgeons will not undertake the manifold operations belonging to this class the unqualified practitioner will step in and will carry out inefficiently the work neglected by the surgeon. Without training and without due knowledge of the conditions and of the risks that are run in operating and of the precautions that should be taken, unqualified operators do grievous harm. Already they venture to undertake much that is pure surgery, and the evil is growing. It is true that the surgeon is willing to operate on hare-lips and a few of the more striking deformities, but many of the malformations he will not touch. In skilled hands the risk and danger are small, and with practice the results may be very good. The work must be undertaken as a real and important part of surgery, and when carried out with care much misery will be saved and many men and women will be rendered more capable of earning a livelihood.

THE DECLINE OF PERSONAL HONESTY.

THE Penal Reform League, in its fourth annual report which has just been issued, takes up seriously the dictum of the head constable of Liverpool that there is "a general decline of personal honesty in many relations of life." That personal honesty is widely lacking, the report states, is well known, but whether it is generally declining there are no means of knowing. In any case, considering the prevalence of social and economic injustice, the unequal distribution of wealth, party strife in economics, politics, and religion, unfit parents and homes, and the stunting effect of schools, what right, it asks, have we to expect anything else? As signs of an awaking conscience in these matters, the report refers to the National Conference on the Prevention of Destitution, held last summer, the First International Congress on Children's Courts, and various other congresses touching cognate subjects. The tours of inspection of the secretary of the league, Captain Arthur J. St. John, lead him to comment on the over centralisation in this country, as compared, for instance, with the methods in vogue in America. He especially urges that children's places of detention should be under the charge of gentlewomen of exceptional attainments. He reviews the prevailing conditions in English, Scotch, and Irish prisons, and concludes that "neither the British Public nor their magistrates have yet grasped the whole meaning and possibilities of probation or of the juvenile court," which in his opinion should be not "a police court with children instead of adult offenders, but an aggressive child protecting agency." It is urged that the intelligent acceptance of Mr. Edmond Holmes's thesis, that "the function of education is to foster growth," must lead to a peaceful revolution in our ideas and our common life that in time will transform our whole criminal procedure and result in the disappearance of prisons. In two appendices are published certain suggestions for penal reform, of which the following seem to be the more important: Inebriates, mental defectives, and debtors should not be imprisoned, but treated or cared for; the replacing of imprisonment by probation or training for offenders under 23 years, the principle of probation being better organised and more widely extended; organisation of prison industries with a view to giving instruction in methods of gaining a livelihood, clothing prisoners better, and the training of character; the establishment of carefully organised parole or after-care system, and of prison farms and colonies; the holding of juvenile courts quite apart from other courts, in juvenile houses of detention and under special magistrates; and a change of *personnel* in prison administration, in respect of an improved method of selection of officials and a marked improvement in the conditions of life of prison officers.

GENERAL INFECTION WITH THE COLON BACILLUS PRODUCING DOUBLE PNEUMONIA AND PURULENT BRONCHITIS.

IN recent years it has been recognised that the colon bacillus may infect various parts of the body, producing inflammation. Infections of the urinary tract are the best recognised and may take the form of nephritis, pyelonephritis, pyelitis, or cystitis. Of lesions in other parts little is yet known. In THE LANCET of Oct. 30th, 1909, p. 1269, Dr. J. Charlton Briscoe reported several cases of matting together of the pelvic viscera by an exudate showing caseous changes and suggesting tuberculosis, but microscopic examination showed that the lesions were due to the colon bacillus, which was also found abundantly in the urine. In the *Boston Medical and Surgical Journal* of Nov. 30th, 1911, Dr. R. C. Kemp has reported a case of general infection with the colon bacillus in which double pneumonia and purulent bronchitis were produced. A man, aged 44 years, was operated on in the New York Hospital for right inguinal hernia on March 2nd, 1910. He was in perfect physical condition and his organs were found normal on examination. Though he took much exercise he was subject to constipation, for which he used olive oil and other simple remedies. On the afternoon of the day of operation catheterisation was necessary. On the next day there was some irritation of the bladder, which was washed out. On the following day there was pain in the left renal region and the urine contained pus. Pyelitis was diagnosed and urotropine was given. In three or four days the pain disappeared and then the right kidney was affected, but not so severely as the left. The pain on the right side soon disappeared, but pyuria and slight pyrexia continued. On March 11th he complained of pains in the right side of the chest, and on the 12th dry pleurisy was found. On the 14th a small pneumonic area was found at the right base. On the 16th there was an alarming attack of heart failure with a fall of temperature. Under digitalin, strychnine, hypodermic injection of camphor in olive oil, hot stupes, and inhalation of oxygen he rallied. On the 24th there was a rigor, and the temperature rose to 104° F. As there was still evidence of pyelitis this suggested infection with the colon bacillus, which was found in the urine in large numbers. Resolution of the lesion in the right lung was very slow. There was little sputum, but in it abundant colon bacilli were found

Early in May a sharp attack of colitis occurred. Subsequently, an attack of pneumonia at the left base with mild symptoms took place. The colon bacillus was again found in the sputum. In May a sudden attack of acute purulent bronchitis occurred. So thick was the pus that a pulmonary abscess was feared. On culture enormous numbers of colon bacilli and some streptococci were found. As there was still pneumonic expectoration it seemed that the bronchitis was due to infection from the pneumonia. Under autogenous vaccines the bronchitis improved, but the colon bacilli persisted in the urine. In June an exacerbation of the pyelitis occurred, and coincided with a second attack of colitis—a very suggestive fact. Ulcer of the colon was suspected, but examination of the stools for pus or occult blood was negative. In July the bacilluria with a few pus cells still persisted, and the evening temperature was 99° to 99·5° F. On August 7th the urine was found free from colon bacilli. It remained so until October, when the patient returned to business. Against advice he did a full day's work. About the fourth day he had a chill and rise of temperature, and colon bacilli reappeared in the urine, but not in great numbers. He was then sent to the South of France. In December he wrote that only a few colon bacilli could be found in the urine and that his temperature was normal. Throughout the illness urotropine and sodium benzoate were given, at one time 80 grains of each daily.

THE EVIDENCE FOR THE SUPERNATURAL.

No one goes far along a medical career (or any other, for that matter) without being asked whether he believes in telepathy, or ghosts, or clairvoyance, or some other allied manifestation of supernatural forces. Whether sceptic or believer he will meet with most circumstantial histories in support of such manifestations, yet almost never at first hand. However sceptical he be, he can hardly fail to be struck by the perpetual recurrence of supposed examples of supernatural manifestations and by the firmness of conviction which these histories engender in people apparently well balanced, and he may wonder how it is that, if there be no truth in the business, such beliefs have not long since shared the fate of witchcraft and necromancy. Those who wish to find a solution to these questions may be recommended to read a book by Dr. Ivor Tuckett,[1] the title of which we have borrowed for this annotation. In it they will find a cool and critical review of the evidence both for and against the supernatural, by one who has had no personal part or lot in procuring the evidence, who has no first-hand knowledge of séances and the like, but has simply set himself to a detached survey of the recorded evidence of experimenters in this field. Undoubtedly the witness of such a critic is entitled to more weight than that of actual participants in the proceedings analysed, especially in such a hazy matter as this, wherein sober judgment is continually threatened by subjective traps and pitfalls. It is sometimes rashly assumed that a scientific training is a sufficient qualification for the investigation of these subtle subjects, and that if a scientist of high standing in his own line announces his belief in spiritualism, let us say, the case for spiritualism at once receives a backing proportionate to the scientist's pre-eminence in physics or what not. This is not the least important of the many fallacies which envelope this elusive subject; for the adhesion to supernatural beliefs of men so eminent as Sir Oliver Lodge and Sir William Crookes has undoubtedly influenced many waverers. Yet it is obvious that those who by training are well accustomed to be critical with regard to experiments conducted under laboratory conditions, conditions whose first element is constancy of the items forming the experiment, may be poor critics of experiments whose circumstances are always vague and never twice identical. It is true to say that a practical knowledge of conjuring in all its branches, combined with training in psychology, is a better endowment for the investigator in these paths than any other scientific equipment, be the latter never so ample. Those who read this book will find in it a temperate and balanced estimate of the evidence for supernatural interference in the daily affairs of men. It is not everyone who will relish its conclusions all along the line, but it is decidedly a book to be read by all who are interested in human psychology; and every practitioner of medicine ought to place himself in this category.

[1] The Evidence for the Supernatural. By Ivor Ll. Tuckett, M.D. London: Kegan Paul. 1911. Pp. 399. Price 7s. 6d. net.

THE OPHTHALMOSCOPE IN GENERAL PRACTICE.

IT is a commonplace of the text-books that the ophthalmoscope can often bring light upon the diagnosis of extra-ocular diseases, and its use for this purpose was greatly increased by the pioneer work of Hughlings Jackson and Gowers in this country. At the same time it is open to doubt whether this instrument is so generally employed as a routine agent in the diagnosis of obscure cases in the general practice of medicine as its value and importance would indicate. From the character of the information it affords, it is worthy to rank with the stethoscope and the thermometer, and indeed it may afford in many instances information which is either pathognomonic or highly suggestive in regard to diagnosis. It is, moreover, in comatose cases and those from whom no history is obtainable that the ophthalmoscope may be of special value. In illustration we may mention some of the conditions which it is easy to recognise with a very little practice and experience in the use of the ophthalmoscope. The appearance of optic neuritis and papillitis in cerebral or cerebellar tumours is well known as one of the most significant signs of these conditions, but it may be doubted whether the ophthalmoscope is generally employed as it should be in all cases of persistent headache, in all forms of convulsions or fits, and in cases with marked neurotic or hysterical manifestations. The mistaking of a brain tumour for hysteria is by no means an infrequent occurrence, and the diagnosis is often only determined by ophthalmoscopic examination. The various forms of neuro-retinitis may also be of importance in diagnosis and lead to the discovery of chronic nephritis and diabetes. It is said that albuminuric neuro-retinitis occurs in from 15 to 20 per cent. of all cases of chronic nephritis, especially of the interstitial variety. The discovery of syphilitic choroiditis on examination of the fundus may serve in an obscure case of visceral disease or of nervous lesion to indicate its nature and suggest a more hopeful prognosis and a specific line of treatment. The recognition of optic atrophy may be an important link in the diagnosis of some chronic diseases of the central nervous system, such as locomotor ataxy, disseminated sclerosis, and general paralysis of the insane, or may serve to suggest the occurrence of lead poisoning as an explanation of obscure nervous symptoms. The vascular conditions of the retina may also be of great importance, and the finding of retinal hæmorrhages may throw light upon the nature of some chronic anæmias, or suggest the presence of chronic nephritis. Embolism of the central artery in a difficult case of chronic fever may reveal the malignant character of the endocarditis causing it. Other examples may be mentioned in the pulsation of the retinal arteries in aortic disease and the so-called "silver-wire" arteries of chronic interstitial nephritis. The occurrence of tubercles in the choroid in general miliary tuberculosis may also be of great importance

XVIIth International Congress of Medicine.

LONDON 6th–12th AUGUST, 1913.

January, 1912.

DEAR SIR,—We beg to inform you that the XVIIth International Medical Congress will be held in London from August 6th to August 12th, 1913, inclusive.

His Majesty King George V. has graciously accorded his patronage to the Congress.

In the name of the Organising Committee of the Congress we beg leave to invite you to take an active part therein. The Rules, which you will find annexed, will give you all the necessary preliminary information.

The programme of the Congress and of its various Sections, including the arrangements for general meetings and for the general discussions in the Sections, will be published not later than September 30th, 1912, and will be forwarded to all those who shall at that time have inscribed themselves as members of the Congress.

We beg to append a form of application for membership and should be glad if you would inscribe your name as a member of Congress at the earliest possible opportunity.

An appeal will shortly be made to the profession for funds to meet the necessary expenses of the organisation of the Congress, which, it is estimated, will be not less than £8000, exclusive of the subscriptions of members.

We have the honour to remain, dear Sir, yours obediently,

THOMAS BARLOW, President.
W. P. HERRINGHAM, General Secretary.

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RULES OF CONGRESS.

ART. 1.—The Seventeenth International Congress of Medicine will be held under the august patronage of His Most Gracious Majesty George V., King and Emperor.

ART. 2.—The Congress will be opened on 6th August, and will close on 12th August, 1913.

At the time of Congress the Central Bureau will be located in the Royal Albert Hall, Kensington Gore, W., and will be opened for the inscription of Members on Tuesday, 5th August, at 10 a.m.

ART. 3.—The object of the Congress is exclusively scientific.

ART. 4.—The Members of the Congress will be: (*a*) Qualified members of the medical profession, who have made formal application, and have paid the subscription hereinafter fixed; (*b*) scientific men who have been nominated by a National Committee or by the Executive Committee, and have paid the same subscription.

ART. 5.—The subscription is: £1 sterling; 25 kroner (Austria); 25 francs; 20 marks; 15 rupees; 20 kroner (Norway); 5 dollars (United States or Canada).

The wives and daughters of Members of Congress desiring to profit by the advantages accorded to them must pay half the subscription fee.

Subscriptions should be sent by postal order or cheque payable to the Treasurers, XVIIth International Congress of Medicine, and the Section in which each member wishes to be inscribed must be indicated. In the case of any country in which there is no system of international postage exchange the services of a banker must be employed. No one can be enrolled as member of Congress before the receipt of his subscription.

An applicant when sending his subscription should enclose his visiting card indicating his medical qualifications and titles and his full postal address. Any change of address must be immediately notified. Cards of Membership will be sent out from the Central Office of the Congress within eight days following the receipt of the subscription.

ART. 6.—Members of Congress will receive the volume of the Transactions recording the proceedings at the general Sessions, as well as the Transactions of the Section in which they have been inscribed.

ART. 7.—The Sections of the Congress are 22 in number, besides which three subsections are established, namely:—I. Anatomy and Embryology; II. Physiology; III. General Pathology and Pathological Anatomy; III*a*. (Subsection) Chemical Pathology; IV. Bacteriology and Immunity; V. Therapeutics (Pharmacology, Physiotherapy, Balneology); VI. Medicine; VII. Surgery; VII*a*. (Subsection) Orthopædics; VII*b*. (Subsection) Anæsthetics; VIII. Obstetrics and Gynæcology; IX. Ophthalmology; X. Diseases of Children; XI. Neuropathology; XII. Psychiatry; XIII. Dermatology and Syphilography; XIV. Urology; XV. Rhinology and Laryngology; XVI. Otology; XVII. Stomatology; XVIII. Hygiene and Preventive Medicine; XIX. Forensic Medicine; XX. Naval and Military Medicine; XXI. Tropical Medicine; XXII. Radiology.

ART. 8.—The organisation of the Congress is in the hands of the Organising and Executive Committees.

ART. 9.—There will be two General Meetings of the Congress, the Inaugural Meeting and the Closing Meeting.

At these meetings the speakers will be the Government Delegates who have been invited by the Organising Committee or designated as such, and these alone. At the Closing Meeting the President will announce the city in which the next Congress will be held. This will be determined by the Permanent Commission which will sit during the Congress.

ART. 10.—The scientific work of the Congress will consist in:—(*a*) general sessions; (*b*) sectional sessions; (*c*) combined sessions of two or more Sections.

ART. 11.—The number of general sessions and the number of speakers will be fixed by the Executive Committee. There will be no debates in the general sessions.

ART. 12.—The sessions of the Sections will be occupied in formal discussions on the Reports (*rapports*), also by the reading and discussion of papers on subjects chosen by individual members of Congress. The work of the Sections is dealt with in separate regulations.

ART. 13.—Two or more Sections may hold combined sessions.

ART. 14.—Members of Congress may take part in the proceedings of Sections other than that in which they have been inscribed.

ART. 15.—The speeches delivered at the Opening and Closing General Meetings, as well as the Reports opening formal discussions, will be published in full. As to communications on subjects selected by individual members, only those papers will be published which the authors have personally presented to the Congress, and the Executive Committee, after consultation with the Sectional Committees, has decided to publish.

ART. 16.—The manuscripts of speeches delivered at the General Meetings must be sent to the General Secretary. The manuscripts of remarks made in discussions and papers read by individual members at the Sectional Sessions must be delivered immediately (*see* Art. 14 of the Sectional Rules) to the Secretary of the Section concerned.

ART. 17.—The Central Office of the Congress will use the English, French, and German languages for international business. In the General Meetings Italian may be used as well as these languages.

ART. 18.—All correspondence should be addressed to the offices of the Congress, as follows:—

The Hon. Gen. Secretary,
XVIIth International Congress of Medicine,
13, Hinde-street, London, W.

On the envelopes of letters relative to the scientific work of the Sections, the Section to which they refer should be specified.

ART. 19.—Information concerning the reductions in fares granted by railway companies, hotel and boarding accommodation, excursions, &c., will be published before the 30th April, 1913.

RULES OF SECTIONS.

ART. 1.—The Sections will meet at 9.30 a.m. and at 3 p.m.

ART. 2.—The first Session of each Section will be opened on Wednesday, 6th August, at 3 p.m.

ART. 3.—The President of the Section will be responsible for the conduct of the discussions, for the application of the rules, and for the punctual accomplishment of the work of the Secretaries. If the President is prevented from being present at any Session of his Section, his place will be taken by one of the Vice-Presidents or by a Member of the Council of the Section.

ART. 4.—There will be no Honorary Presidents of Sections.

ART. 5.—The Sessions will be conducted according to the Parliamentary regulations in general usage.

ART. 6.—The Sessions will include discussions on the Reports and the reading and discussion of papers on subjects selected by individual Members.

ART. 7.—Reports (*rapports*). In each Section the morning Session will be reserved for the discussion of important questions which have been previously selected by the Council of the Section. Each discussion will be introduced by one or two Reporters chosen by the Council of the Section with due regard to the International character of the Congress. The definite programme of the discussions will be published on September 30th, 1912. The manuscripts of the Reports must be typewritten, and must be sent to the Central Office

Cut here.

XVIIth INTERNATIONAL CONGRESS OF MEDICINE.

LONDON, AUGUST 6th-12th, 1913.

SECTIONS:

i. Anatomy and Embryology.
ii. Physiology.
iii. General Pathology and Pathological Anatomy.
(Sub-Section) Chemical Pathology.
iv. Bacteriology and Immunity.
v. Therapeutics.
vi. Medicine.
vii. Surgery.
(Sub-Section) Orthopædics.
(Sub-Section) Anæsthesia.
viii. Obstetrics and Gynæcology.
ix. Ophthalmology.
x. Diseases of Children.
xi. Neuropathology.
xii. Psychiatry.
xiii. Dermatology and Syphilography.
xiv. Urology.
xv. Rhinology and Laryngology.
xvi. Otology.
xvii. Stomatology.
xviii. Hygiene and Preventive Medicine.
xix. Forensic Medicine.
xx. Naval and Military Medicine.
xxi. Tropical Medicine.
xxii. Radiology.

No. _____

To the HON. GENERAL SECRETARY.

Dear Sir,

I beg to ask you to inscribe my name as a member of Congress in the _____ *th Section, and to forward my subscription of* _____ *by Postal Money Order.*

Date _____

Name in full _____

Medical Qualifications _____

_____

Other Titles _____

Full Address _____

_____

Kindly attach your visiting card, and please write distinctly.

I beg also to forward subscriptions for:—

1. MY WIFE—*Name in full* _____

Address _____

2. MY DAUGHTER—*Name in full* _____

Address _____

This application should be returned to The General Secretary, XVIIth International Congress of Medicine, 13, Hinde-street, London, W. Subscriptions (see Rules of Congress, Art. 5) are payable to the Treasurers, and must be enclosed with the application.

of the Congress by February 28th, 1913, at the latest. The Reports of each Section will be printed and distributed three months before the opening of the Congress, to all members of the Section who have then been enrolled. (See Rules of Congress, Articles 4 and 5.) The reports will not be read *in extenso* at the session. Each reporter will, however, be allowed a maximum of 15 minutes for an opening *résumé*, and 10 minutes for a reply at the end of the discussion. Other speakers taking part in the discussion will be allowed a maximum of 10 minutes only for their remarks.

ART. 8.—Members of Congress who desire to take part in the discussion of any Report may enter their names before the Congress by giving written notice to the General Secretary. During the Session they must communicate directly with the Secretary of the Section.

ART. 9.—Speakers will be called upon by the President according to the order of their inscription on the Agenda.

ART. 10.—Independent Papers. The afternoon Sessions will be devoted to the reading and discussion of independent papers. The titles of such papers ought to be announced to the Central Office of the Congress by the 30th of April, 1913 The Council of the Section has the right of selection from among the papers offered, and of declining any that they do not consider desirable. The Council of the Section will arrange the order in which the selected papers shall be read. Any papers offered after the 30th of April, 1913, will only be placed upon the agenda after the discussion of those which have been announced before this date and have been chosen by the Council of the Section. No paper will be accepted unless the text has been received by the Secretaries of the Section before the 1st of July, 1913. A maximum of fifteen minutes will be allowed for the reading of a paper, and five minutes for each speaker who takes part in the discussion. The author of the paper will be allowed five minutes for a reply.

ART. 11.—Speakers will receive two intimations from the President as to their time limit; notice will be given two minutes before, and at the moment of expiry of the period allowed.

ART. 12.—For certain communications of particular importance and general interest, the President may, with the consent of the Section, prolong by five or ten minutes the periods already indicated.

ART. 13.—If a speaker wanders from the subject under discussion, or indulges in personalities, the President may call upon him to sit down. If several members ask to speak upon a paper, and the hour is late, the President may on his own authority, or upon the proposition of a member, defer further discussion upon that paper to the end of the Session, if time permits.

ART. 14.—The text of the remarks made in the course of discussions will only be inserted in the Transactions of the Congress if the speaker sends it in writing, condensed into 20 lines of print, to the Secretary of the Section before the end of the Session. (Block note-sheets will be placed for this purpose at the disposal of members by the Secretaries.) Those who omit to conform to this regulation will lose the right to have their remarks published in the Transactions.

ART. 15.—The Executive Committee reserves to itself the right to abridge the report of any discussion, and to omit any remarks of a personal character.

ART. 16.—Private resolutions can only be proposed after previous notice given to the President, and when the business on the Agenda has already been disposed of. For the proposal of any special resolution a maximum period of five minutes only will be allowed. The President will authorise only such resolutions as come within the limits of the work of the Section.

ART. 17.—No vote may be taken, nor any resolutions passed, upon questions of science or theory, but only on such questions as possess a practical or administrative character. On such questions the sense of the meeting will be taken by the majority standing or remaining seated. The President will transmit such resolutions as shall be passed, through the General Secretary, to the Permanent Commission of the Congress. The Commission will decide whether the resolutions in question ought, or ought not, to be put to the vote at the Closing Meeting of the Congress.

ART. 18.—The Secretaries of each Section will send an account of its transactions for the daily journal. This account will mention in chronological order the subjects of the Reports and discussions, the papers read, the names of the speakers, and any resolutions submitted to the Section.

and be pathognomonic in an otherwise obscure case of acute illness in childhood. Although all these conditions and their indications are known to many students preparing for examination as well as to practitioners, there is little doubt that they are not as generally applied as they should be. The ophthalmoscope is not a difficult instrument on which to acquire a sufficient facility for all ordinary purposes; the question of a suitable light is readily solved by any of the simple and cheap portable electric lamps now available, and in difficult cases dilatation of the pupil can quickly be obtained by a little homatropine. The opportunities given at hospitals and in post-graduate courses to learn the use of the ophthalmoscope are now abundant, and the time and trouble spent in this way are amply repaid.

THE PROGRESS OF SCHOOL HYGIENE IN PORTUGAL.

A CORRESPONDENT, writing from Lisbon, informs us that the Portuguese Government has determined on the medical inspection of superior upper schools and lyceums until such time as it shall be possible to extend the practice to all primary schools. Medical inspection is further about to be organised for certain private establishments. An important movement also, having for its aim the diffusion of new methods of education, which will result in considerable progress in both public and private teaching, is on the point of establishment. The Portuguese Society of Pædagogic Studies, founded Jan. 15th, 1910, has taken the lead in the movement for making known what are the scientific data and practical foundations of a sound educational system. As a beginning, the members of the society will hold a series of public conferences at which the following subjects will be discussed: the scientific basis of education; the psychology of the child; the medical inspection of schools; manual training in schools; sexual ethics; the struggle against alcoholism in the primary school; pædagogic methods; the coöperation of the family with the school in education; art in the school; children's gardens; interchange of school amenities; school fêtes and excursions. Next April a Congress of Pædagogy—the third in Portugal—organised by the National League for Instruction, will take place at Lisbon, and its second section will be devoted to school hygiene. The method of primary instruction will be entirely reformed on a plan to be established, on the proposition of Dr. Ladislau Piçarra, senator, after consultation with the Society of Pædagogic Studies.

ANCIENT HINDOO REMEDIES.

NERVOUS instability, amorousness, and mental fatigue would seem to be Hindoo characteristics, to judge by the newspaper announcements of the remedies of a certain Mr. Kaviraj Keshab Lall Roy. These are described as "some of the best specifics ever found out in the system of Ayurveda"—i.e., medicine. We ought, perhaps, to accept this statement as being made in good faith. There is, indeed, reason to suppose that the domestic medicine of Hindustan is still in the Vedic stage, and that a quack medicine in India is probably a traditional one, a descendant, indeed, of the pharmacopœia of the early Sanscrit philosophers. The ancient Hindoo pharmacy and therapeutics have of late years been illustrated by two notable publications. Of these, the first, published in 1905 by the University of Harvard, is Whitney's translation, with notes by Lanman, of the famous "Atharva-Veda." The second is the revised translation of the "Bower Manuscript" of the "Nâvanîtaka" (a Sanscrit work on medicine), published in 1909, under the editorship of Dr. Rudolf Hoernle, by the Archæological Survey of India. The Atharva-Veda is mainly concerned with prayers, incantations, and charms. The "Nâvanîtaka," on the other hand, is a vast handbook for the legitimate practitioner or for the self-medicating individual. It deals with diseases known to antiquity and chiefly prescribes vegetable remedies or simples, such as clarified butter. Thus chyavanaprâsa, or medicated ghee, so called after the famous sage Chyavana, is frequently referred to and perhaps reappears as the chyavanpras, recommended in cases of debility by Lall Roy. Impotence is for obvious reasons regarded as a particular calamity in the East, and thus we find an important section of the book devoted to aphrodisiacs, some of which are terrific enough. The medicine known as "the Sarasvati Clarified Butter" is for a Râjarshi who desires to beget a son. "Juice of Gôkshuraka (Tribulus terrestris), clarified butter, and milk of both a goat and a cow, together with one prasrita of honey, makes a prescription capacitating a man, &c." Another simple mixture, made into boluses, increases this capacity, and ensures "favouritism" among members of the other sex! Emblic myrobolan creates an erotic monster, and we are in the region of Oriental exaggeration with a vengeance. Signaturism plays a large part in the concoction of these mixtures. Thus "sparrow broth" and pig's fat are frequently recommended to the voluptuary, as also red rice, goat's milk, and the flesh of a cock. There is usually, however, some herbal ingredient, such as Ipomœa digitata, in any given medicine, which probably has a certain efficacy, even though it be only purgative.

THE CARE OF THE COMING RACE.

FEW public duties are of farther reaching importance than that of providing for the proper bringing up in sound health and adequate development of the future citizens of the Empire. While undoubtedly a considerable part of the present defective stamina of children, especially among the poorer classes, is due to unsatisfactory environment, quite a large part also is dependent on the ignorance of those on whose care the upbringing of the little ones devolves, an ignorance of how to make the most of those possibilities they possess, and how to ameliorate existing disadvantageous conditions. It was to combat this ignorance that the National League for Physical Education and Improvement was incorporated in 1905. Among the work done by this league was the establishment of infant consultation centres and of schools for mothers. During the past two years there has been a rapid increase in this work, and it is thought that the time has come for a further development of the organisation in relation thereto. We learn, accordingly, that it has been decided to form a special department to coördinate the work and to promote the formation of new centres. With this end in view, the Association of Infant Consultations and Schools for Mothers was inaugurated recently in a well-attended meeting, the chair being taken by Alderman Broadbent, of Huddersfield, whose name is so well known in relation to the cause of infant upbringing. At this meeting the constitution of the association was decided upon, and a strong provisional executive committee was formed to carry on the work until the first meeting of the representative general council can be held. The medical profession has accorded the movement generous countenance, and is to be represented on the governing bodies in equal numbers with non-medical delegates from the 34 affiliated societes. Alderman Broadbent, in his remarks, drew special attention to the happy combination of municipal and voluntary effort already effected in certain districts. The attention of the association is directed towards the establishment of a uniform method of keeping records and statistics, a necessary factor in all successful collaborative work. By this means, newly forming

societies can receive guidance and help to direct their efforts aright by the light of the failures and successes of their predecessors. All interested in the formation of societies of kindred aim can obtain valuable guidance by applying to the league at 4, Tavistock-square, London, W.C. There are now to be obtained from the league a leaflet of suggestions for the formation of consultation centres, medical case papers, and recording charts, while a series of coloured wall charts setting forth hygienic truths is in course of preparation. The first deals with the dangers of long-tube feeding-bottles. Others will pictorially demonstrate the dangers of unguarded fireplaces, the use of push carts, and similar matters. The stimulation of public interest in this subject is the function of the league, and the coördinating of the organisations that must necessarily result from such stimulus will be undertaken by the association. The work is surely worthy of support.

COLD ABSCESS OF THE ABDOMINAL WALL.

M. Savariaud opened a clinical lecture at the Trousseau Hospital recently by saying that the first thing essential to a correct diagnosis of certain morbid conditions is that the practitioner must be aware that such conditions do somel times exist. The remark is peculiarly apposite in relation to the relation between tuberculosis and primary cold abscess of the abdominal wall. Dr. Savariaud said that although tuberculosis is exhaustively studied, and so fully described in text-books, in its relation to most organs, there is general silence as to its occurrence in this position. Nevertheless, he has himself seen three cases in children within two years, and he quotes, in *La Semaine Médicale*, reports from other surgeons which bring the total number of recorded cases up to 21. Among these every age is represented. As a rule, the disease of the abdominal wall is not preceded by any other manifestation of tuberculosis. The abscess is most often situated laterally and rarely in the epigastric or umbilical regions; any of the various layers of the abdominal wall may be implicated, but the muscles and aponeuroses are the sites of election. The infection is usually blood borne, but it may reach the abdominal wall by the subperitoneal lymphatics, and M. Savariaud considers that it may begin as an invasion of the iliac lymph glands. The first symptom is pain, which, however, ceases as soon as the swelling has attained a certain size; it rarely becomes larger than an egg. It may have a solid consistence, or there may be a soft, fluctuating centre resting upon an indurated base. In either case it does not move with respiration, but hardens and disappears more or less completely during contraction of the abdominal muscles. The course of the disease is chronic, even exceeding a year in some instances. The possibilities of error in diagnosis are of two kinds: the swelling may be regarded as a new growth of the abdominal wall, or it may be mistaken for a lesion of the viscera within the abdomen. Indeed, in one of the cases reported by M. Savariaud the patient was thought to be suffering from cholecystitis up to the time of operation—in fact, until the first stages of the incision discovered pus in the abdominal wall itself. In these cases it is always necessary to take special care to exclude tuberculous lesions of the neighbouring bones (ribs, spine, pelvis), as spread of the infection from these may provoke the formation of intermuscular abscesses hardly distinguishable from those which arise primarily within the abdominal wall. The prognosis is good; open operation is nearly always successful in effecting a cure, the only troublesome sequelæ being fistulæ demanding further operative treatment and ventral hernia following the larger abscesses.

THE FEEBLE-MINDED AND THE LUNACY ACTS.

WE have received from the clerk to the guardians of Fulham a copy of a report by the workhouse visiting committee of that parish relative to the question of increasing the legal powers of compulsory detention of feeble-minded persons. The committee refer to the decision of the courts in the case of R. *v.* Shaw, as establishing the view that "imbecility and loss of mental power, whether arising from natural decay or from paralysis, softening of the brain or other natural causes, or intemperance, and though unaccompanied by frenzy or delusion of any kind, constitute unsoundness of mind amounting to lunacy" within the meaning of the Lunacy Acts. And they further quote the opinion of the Lunacy Commissioners, as stated in their reports for the years 1910 and 1911, to the effect that the powers conferred by Section 24 (3) of the Lunacy Act of 1890 would, if more liberally used, enable local authorities to certify and detain the weak-minded women and girls and the imbecile youths who have hitherto been allowed to live an in-an-out existence in the workhouses to their own detriment and with serious inconvenience and danger to the community. Accepting this view of the legal position, the committee deprecate the suggestion that there is any need to ask the legislature for further powers in order to deal effectively with these cases. While it is very gratifying to learn from this report that there are local bodies which take this broad view of their responsibilities, it must be borne in mind that the opinion which the Fulham guardians are putting forward has not hitherto been generally admitted, and it is tolerably certain that, even if it were recognised as sound in principle, it would be acted on by only a very small number of Poor-law authorities. Moreover, the insane wards of the workhouses, however admirably managed, are obviously unsuited for the permanent detention of the congenitally defective persons who form the large majority of the feeble-minded class. The continuous treatment with industrial occupation which these cases require can only be provided in institutions organised for their specific needs. While, therefore, it is eminently desirable that the fullest use should be made of the powers available under the existing law, it must be clearly understood that such powers are entirely inadequate to deal with the problem and that their value is merely that of a temporary expedient pending the adoption of a complete and thorough method for controlling this social evil.

THE Registrar-General desires to intimate to medical officers of health that they will be furnished about Feb. 1st with particulars of transferable deaths registered during the last quarter of 1911. At the same time will be supplied to them the numbers of births to be added to or deducted from those furnished them by registrars in order to correct for lying-in institutions in accordance with the announcement made in a footnote to Table I. of the Local Government Board. A copy of the Registrar-General's "Manual of Causes of Death" will, it is hoped, be sent to every medical officer of health during the latter part of the present month.

Dr. Sun Yat Sen, whose election to the Presidency of the new Republic of China is reported in the *Times*, studied medicine at Tientsin, and subsequently joined the staff of the Alice Memorial Hospital in Hong-Kong. Before engaging in politics he practised for a time in Canton.

THE Lord Chancellor has appointed Mr. Barnard Thornton Hodgson, barrister-at-law and secretary to the Commissioners in Lunacy, and Dr. Charles Hubert Bond, medical superintendent of the Long Grove County of London Lunatic

Asylum, to be Commissioners in Lunacy; and Mr. Oswald Eden Dickinson, barrister-at-law and secretary to the Lord Chancellor's Visitors in Lunacy, has been appointed, with the approval of the Lord Chancellor, secretary to the Commissioners in Lunacy, in the place of Mr. Hodgson appointed a Commissioner in Lunacy.

THE committee of organisation of the Seventh International Congress of Dermatology and Syphilography (Rome) has fixed as the date of the Congress April 8th–13th, 1912, immediately preceding the International Congress against Tuberculosis, which will take place on April 14th–20th. The final programme of the Congress of Dermatology will be printed during the latter half of the present month, and fresh communications can still be inserted up to Jan. 15th.

Mr. Robert Denman, M.R.C.S. Eng., L.S.A., D.P.H. Cantab., Director of the Medical and Health Department of Mauritius, has been nominated a Member of the Council of Government of the Colony of Mauritius.

WE regret to announce the death on Dec. 30th, 1911, at the age of 57, of Dr. John Francis Sutherland, Senior Deputy Commissioner in Lunacy for Scotland.

DONATIONS AND BEQUESTS. — The late Dr. Kershaw, formerly medical officer of health of Royton, has left his estate, of the value of £40,000, for hospital purposes for the town of Royton. It is proposed to erect a hospital at the estimated cost of £11,000 and an estimated upkeep of £2100 per annum. Under this scheme the hospital would have 30 beds, which would mean that the council would have to raise £1100 annually.—Under the will of the late Mr. John Roderick, of Staffordshire, the testator left £50,000 to the Birmingham General Hospital, £10,000 to the Queen's Hospital, Birmingham, £1000 to the Birmingham General Dispensary, and £1000 to the Birmingham Skin and Urinary Hospital. The estate duty on the property will absorb about £40,000, and after payment of this duty and the above bequests there will be a balance remaining of about £185,000, which will be reduced by payment of legacy duty at the rate of 10 per cent. on the various bequests to about £153,000, and this balance he left as to one-half to the Birmingham General Hospital, one-fourth to the Queen's Hospital, Birmingham, and one-fourth to the Birmingham General Dispensary.—The late Mr. Alfred John Heath, of Putney, has left the following legacies on the death of his mother:—A sum sufficient to endow a bed to be called "The Alfred and Clara Heath Bed" in each of the following hospitals: The London Hospital, the Middlesex Hospital, the Charing Cross Hospital, King's College Hospital, St. Mary's Hospital, Paddington, the Cancer Hospital, Fulham-road, S.W., and the Miller Hospital and Royal Kent Dispensary, Greenwich-road, S.E., and to the Hospital for Sick Children, Great Ormond-street, a sum sufficient to endow a cot to be called "The Cissy Cot," in memory of his sister, Clara Elizabeth Heath. All other his property he left to King Edward's Hospital Fund for London. The amount available for these charitable objects is about £17,000.—The late Mr. Joseph Withers has left by will £5000 to the Victoria Park Hospital, on condition that that hospital provides the mayor of the borough of West Ham with letters for the use of the poor.—The treasurers of the Middlesex Hospital have received a donation of 1000 guineas from Mr. J. D. Bland to endow a bed in memory of his wife.

PRESENTATION TO A MEDICAL PRACTITIONER.—Mr. Duncan R. Macdonald, L.R.C.P., L.R.C.S. Edin., has been presented by his friends and patients in Dunbar with a cheque for £348 for the purpose of purchasing a motor-car. This kindly act has been prompted by the desire of Mr. Macdonald's friends to conserve as much as possible his strength. The presentation was made in the parish church hall, Dunbar, on Dec. 27th, 1911, in the presence of a large and representative gathering of subscribers.

ON PULQUE AND PULQUE-DRINKING IN MEXICO.[1]

BY JOHN BLAND-SUTTON, F.R.C.S. ENG.,
SURGEON TO THE MIDDLESEX HOSPITAL.

THROUGHOUT the world men have discovered means for obtaining alcoholic beverages by the fermentation of starchy matter and saccharine juices obtained from the vegetable kingdom. The starch of cereals yields beer, whisky, and saké; from the juices of grapes, berries, apples, sugar-cane, pine-apples, bananas, and other fruits men obtain wine, brandy, cider, rum, and the like.

During a visit to Mexico I have had opportunities for studying pulque, an alcohol drink obtained from the fermentation of the sap of the maquey (Agave Mexicana).

The cultivation of this plant is an important industry on the Mexican tableland, and the maquey plantations are very extensive and as numerous as cornfields in England. The maquey, or pulque-plant, is interesting as well as useful. When full grown it may be 10 feet high and possess 30 to 70 thick fleshy leaves arranged in rosette fashion on a stout fleshy stem, which is usually so short that the leaves appear to spring from the root. The leaves are thick, long, and terminate in a formidable spine, two inches or more in length, sharp and strong enough to penetrate leather. The edges of the leaves are armed with strong barbs, so that when a number of agaves are planted close together, the spiny armature of their leaves constitutes an impenetrable fence against man and beast.

The plant is propagated by means of shoots which spring from the roots of adult plants after flowering. These shoots are carefully planted in rows of about a hundred plants to the acre. The hole made for the reception of the plant is about a yard square and filled with good loose soil. In about seven years the maquey matures, and a single stalk or *mast* grows from the centre of the rosette, and may attain a height of 20 feet, and at the base it sometimes measures a foot in circumference. At a distance a flower column looks like a telegraph pole, and the upper end bears a huge pyramidal inflorescence not unlike a candelabrum, for it consists of branches carrying discs composed of hundreds of yellow flowers. These are in due course replaced by seeds, and as soon as the seeds ripen this enormous flower-stalk and the leaves die. Then shoots arise from the roots. Although the flower column or *mast* appears as bare as a telegraph pole, on close inspection rudimentary paper-like leaves will be found on it.

The maquey is trained to yield pulque in the following way. After planting it requires no attention until the flowering period, which happens between the seventh and tenth years; at this time the middle of the plant consists of a number of leaves closely compressed like the heart of a cabbage, but forming a sharply-pointed cone. An examination of the apex of this cone affords indications to the husbandman when a maquey is about to flower. The cone is then cut out, and the soft tissue at its base is scooped out of the short fleshy stem immediately above the root, leaving a cavity about six inches in diameter and four in depth. The soft tissue is scraped away by a scoop-shaped tool known as the raspador (Fig. 1, B). The removal of the central apical bud is called castration of the plant. The immature leaves from the cone are bright yellow, and after the cutting the husbandman sticks some of them on the spikes of the surrounding leaves to let the collector (tlachiquero) know that the plant has been cut. At the same time the edges of some of the leaves are stripped off to save him from being scratched (in spite of leathern clothes) by the lateral barbs when collecting the sap which oozes into the artificial cup scraped in the stem. A piece of leaf is usually placed over the hollow to keep out rain water, and on some farms the leaves are interwoven in such a way as to form a roof over it.

As soon as the plant is treated in this way the juice accumulates in the cavity, and twice daily a man or boy visits it and sucks up the fluid known as "aguamiel" (honey water) by means of the acocote. This instrument is a flask-shaped gourd from which the pulp has been extracted and the rind dried; at the narrow end a piece of an ox-horn

[1] A lecture delivered at the Middlesex Hospital.

is adjusted to serve as a spout, and the broad base of the gourd is perforated (Fig. 1, A).

▶ This crude instrument is used in the following manner. The horn spout is introduced into the cup-like hole in the maquey and the man sucks the air from the gourd by applying his lips to the hole in the base; when the air is in this way withdrawn from the gourd the fluid rushes into it (Fig. 2). The aguamiel is then emptied from the acocote into a pigskin, which the man carries on his back or which is borne on the back of a donkey (Fig. 3).

▶ After removing the fluid from the plant the man gently scrapes the cavity with his raspador. The scraping is a very necessary act in the management of the maquey; it comes about that each daily scraping enlarges the cavity in all directions, and in a large plant it may eventually have a capacity of 3 or 4 litres or more. If the scraping be carelessly or injudiciously performed the maquey quickly dies. A good plant well managed will yield 10 litres or more sap daily and furnish this amount for 20 weeks. As the plant fades, green shoots sprout from its roots in all directions and are in due course transplanted.

FIG. 1.

The implements of the tlachiquero for collecting the aguamiel from the maquey. A, The acocote made out of a gourd; its spout is a piece of ox-horn. B, The raspador or scraper. C, A piece of steel for sharpening the raspador.

The aguamiel as it exudes from the plant is a sweet, pale yellow fluid with a pleasant taste, and very attractive to insects. As soon as the tlachiquero has filled his pigskin he takes it to the hacienda, and the fluid—after being strained to free it from insects and chips of the agave—is poured into shallow receptacles made of ox-hide stretched on frames. In these it is allowed to ferment; this process is hastened by the addition of "madre" or mother pulque. The preparation of the madre requires care and experience, for the quality of the pulque depends in a large measure upon it. Fermentation proceeds so rapidly that it is complete within 24 hours; thus pulque cannot be transported in a condition fit for drinking beyond a journey of a few hours. When ready for consumption the pulque is placed in barrels and regularly conveyed in trains to Mexico city, in the same fashion that milk is brought to London daily in special trains.

The agave is useful to Mexicans in other ways than supplying pulque. An alcoholic extract known as mescal is distilled from its leaves and roots. Mescal is colourless, bitter, and possesses a peculiar aroma. It contains 20 per cent. of alcohol. Fibre from the leaves of the agave is used for rope-making and paper. The Aztecs used paper made from the finer kinds of fibre for writing and painting. The famous picture-writing was executed on paper of this kind. Agave leaves are used for thatching huts, and the stems and roots serve for firewood.

FIG. 2.

The tlachiquero collecting aguamiel from the maquey by means of the acocote. A pig-skin lies on the ground.

Pulque is a milky fluid with a specific gravity slightly less than water. Its milkiness is due to the presence of suspended particles and yeast cells; when these are precipitated by the centrifuge pulque becomes clear and transparent. According to O'Gorman and Allen, the species of yeast found in it are Saccharomyces cerevisiæ agavicia, S. ellipsoideus, Bacterium aceti, Bacillus viscosus, and B. acidi lactici can be obtained on cultivation. Pulque has a peculiar sour and offensive odour, resembling that of rotten eggs or cheese, or a combination of rotten eggs and sour milk.

The composition of pulque obtained by O'Gorman and Allen is the following (in parts per 1000): Solids, 17·90; alcohol, 44·50; volatile acid, 0·90; carbonic acid, 0·30; water, 936 40. The solid constituents consist of gum,

albuminoids, phosphoric acid, potash, phosphate of magnesia, and calcium.

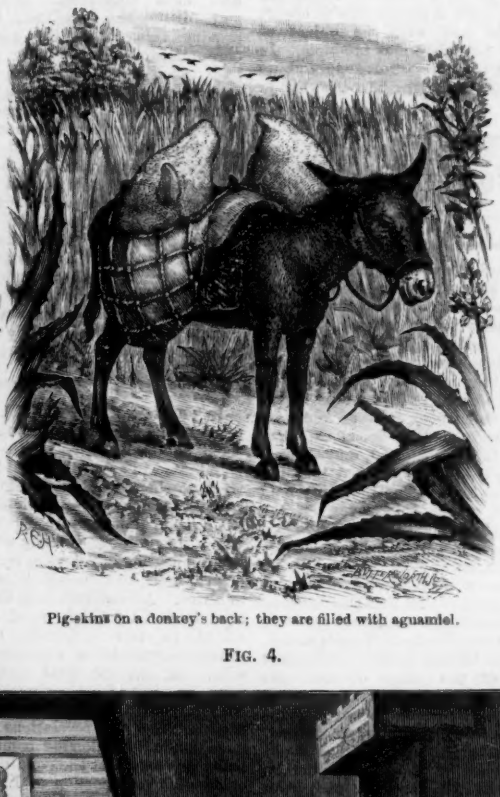
The proportion of alcohol in pulque is a little less than that found in alcoholic drinks which come under the title of beer. For example, London porter contains 6 per cent. of alcohol; Munich lager beer, 5 per cent.; and pulque, 4·45 per cent.

The shops (pulquerias) where pulque is sold resemble in many points the old-fashioned beer-shops in England. They are easily detected by their odour, decorations, and groups of loungers. Pulque-shops, like beer-houses, have signs, some of which are picturesque, but the majority are gaudy. The walls may be painted with curious symbolic pictures replacing our old-fashioned sign-posts and in others the hangings consist of brightly coloured paper.

In relation to the pulque shops Flandrau, in his interesting book "Viva Mexico," refers to the constant amusement foreigners derive from reading their signs. "A foul little corner calcimined sky-blue with a life-sized lady reposing in a green bower painted on its finger-marked exterior is entitled El Nido de Amor, or a pink hole in the wall that can be seen for a block and smelled for two, is named Las Flores de Abril." Other and more appropriate names are El Infiernito (the little hell), La Seductoris, and Las Aves de la Noche (The Night Birds).

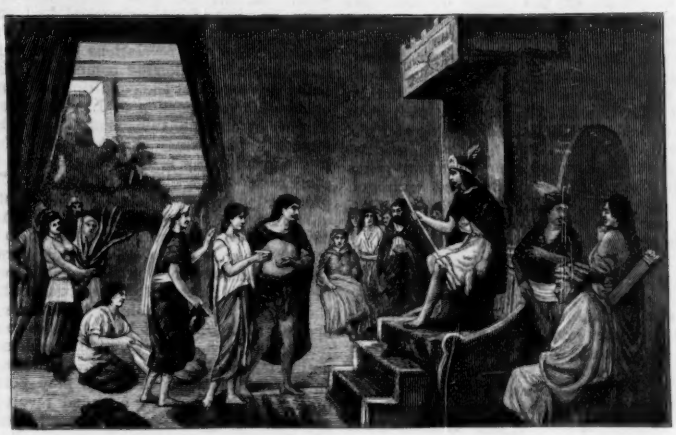
The names and signs of pulque shops appear to have an irresistible attraction for almost all who visit Mexico city. Many of the signs in use are those adopted by drinking-shops in London or any English town; among others, we find "The Three Graces," "The Gladiator," "Adam and Eve," "The White Rose," "The Toad in the Hole." One sign, "La Hermosa Xochitl" (Beautiful Flower), has an interest in relation to the discovery of pulque. It is believed that pulque was discovered in the latter half of the eleventh century by Papantzin, a kinsman of the Toltec king, Tepancaltzin. Papantzin sent his daughter Xochitl with a sample to the king, who appears to have been pleased with the fluid and charmed with the messenger, for he retained Xochitl and placed her in his harem. From their union a child was born and named Meconetzin, or Child of the Maquey. This legend is illustrated by a picture in the National Picture Gallery of Mexico, in which Xochitl is represented presenting a vessel of pulque to the king. (Fig. 4.)

FIG. 3.



Pig-skins on a donkey's back; they are filled with aguamiel.

FIG. 4.



Xochitl presenting pulque to the King.

It is a fact that the Aztecs were addicted to pulque-drinking at the time of the Spanish Conquest—1519. The Aztecs acquired it from the Toltecs. It is said that pulque-drinking led to the downfall of the Toltecs, for it caused them to neglect agriculture, in which they were proficient, and they became deficient in the art of war. Their decadence led to the loss of their possessions, for they were driven away by the first warlike tribe that came against them.

Pulque is described as the national drink of Mexico, and the Mexicans drink it as freely as English labourers, husbandmen, and artisans drink beer. It is not uncommon for a man to swallow five or six litres daily, and it is cheaper than beer, for it can be bought for 1*d.* a litre.

Pulque-drinking is chiefly confined to the working classes; men, women, children, and babies drink it freely, and with the same sociological and physiological effects which are the sequence of beer-drinking in England. Most of the acts of violence committed in Mexico city and Puebla—two cities in the centre of the pulque industry—are attributed to pulque drunkenness. The fact that pulque cannot be exported limits its sphere of influence; in order to supply the drinkers special trains convey the fluid to the cities, and when a fresh supply is delivered at the shops the fact is announced for the benefit of the customers, as in a German beer garden the bier-kellner shouts *wird gezapft* to inform the guests that he is about to tap a fresh barrel. Many unsuccessful attempts were made to abolish the traffic in pulque by the Spanish viceroys and archbishops during the seventeenth century. In 1692 an edict for this purpose led to a formidable riot; the archbishop's palace was stoned and an infuriated mob set fire to several public buildings. The Mexican peons are so devoted to pulque that they regard it as a "liquor divine, which angels in Heaven prefer to wine." Pulque shops are under the control of the law and are closed at 6 o'clock. In times of political excitement these shops are closed for the safety of the city. Taken in moderate quantity the drink produces excitement; the drinkers then become quarrelsome and dangerous. Intoxication produced by a large quantity is followed by heavy sleep. The effects of excessive pulque-drinking on the system

have been carefully studied, and they appear to be such as are seen in the habitual drunkard in Europe. Aguamiel has been used as a remedy for inflammatory conditions of the urinary organ by Mexican physicians for centuries. To-day American physicians send patients with Bright's disease to take an aguamiel cure in Mexico. The aguamiel obtained from the maqueys plain of Apam has the greatest reputation.

The pulque industry to-day is mainly in the hands of a powerful trust company, and though the abolition of pulque-drinking is impossible it can be in a measure controlled. This company has initiated scientific investigations to ensure cleanliness in its manufacture and with the object of depriving the fluid of some of its deleterious products. In this way pulque will be rendered more wholesome and its production placed on a scientific basis like beer-brewing in England.

Brook-street, W.

MEDICINE AND THE LAW.

Culvert Gases: Carbon Monoxide or Sewer Gas?

Mr. Justice Lush recently heard a case in which there were raised questions of very great interest both to scientists and medical jurists. The Rochdale corporation sued the trustees of the Rochdale Markets Company in the following circumstances. On the morning of June 6th, 1910, three men, named Harris, Clegg, and Collins, were engaged in the construction of a culvert. After they had been in the culvert for about an hour Harris came up and said, "It was rather strong down there." The other men also came up and were told not to go down again. Harris died at 6 o'clock, after being taken home in a cab. Clegg also died, and Collins, after a severe illness, recovered. It was alleged that the men had been what is called "gassed." The plaintiffs paid compensation, which they now sought to recover, on the ground that the men had been poisoned by carbonic oxide and other noxious fumes which had been conveyed into the culvert by a pipe connected with a gas engine used by the defendants. Dr. A. G. Anderson, medical officer of Rochdale, was of opinion as a result of a post-mortem examination that the death of Harris was caused by the inhalation of a dangerous quantity of carbon monoxide, though that was not the full explanation, because there was evidence that he had inhaled some other noxious gas. The condition of the lungs denoted the presence of other gases. He failed to discover any trace of sulphuretted hydrogen. Dr. H. S. Heap found a large amount of carbon dioxide and also some carbon monoxide in the culvert. He knew of nothing except carbon monoxide which could produce the cherry red appearance of the blood, which he found was saturated with from 12 to 15 per cent. of carbon monoxide. Professor S. Delépine, after experimenting with gas engines of a similar make to that used by the defendants, said that the symptoms suggested poisoning by irritant gases as well as by carbon monoxide. Sulphuretted hydrogen had nothing to do with causing the deaths. In his opinion death was due to the combined effects of the carbon monoxide and such gases as might be emitted by a gas engine. The defence submitted that no case of negligence had been made out, and it was further submitted that the plaintiffs had been guilty of contributory negligence, as they knew that the defendants turned the gas from the exhaust pipe into the culvert and sewer, and yet allowed their workmen to go into that which they now charged against the defendants as a death chamber. The blood drawn from the man who recovered, according to Dr. W. Ross, showed absolutely no indication of carbon-monoxide poisoning. Dr. J. S. Haldane, of Oxford, said he thought the cause of death was poisoning by sulphuretted hydrogen, and that carbon monoxide had nothing to do with it. In his experience of carbon-monoxide poisoning it was unknown that persons who had died from that cause had been able to walk about after being "gassed"; yet in this case the men climbed out of the manhole without assistance, went to breakfast, and were considering about doing another piece of work. Dr. F. Craven Moore corroborated the view of Dr. Haldane. The judge said he had to reconcile two almost irreconcilable themes advanced by eminent men. Judgment was reserved.

The Case of Charles Louis Lumley.

At the last sessions at the Old Bailey a man named Charles Louis Lumley was tried for the murder of a woman named Gorringe through the performance of an illegal operation upon her. Gorringe was a married woman living apart from her husband and employed as a draper's assistant. She had been with a man with whom she had cohabited to consult Lumley, who was formerly upon the Medical Register, but whose name had been removed in 1900 on a charge of a different character from that upon which he has now been convicted. Mrs. Gorringe became very ill and died, the medical evidence being directed to proving this to be the result of an attempt to procure miscarriage, the only question being whether what had taken place had been the act of the woman herself or of someone else, before she visited Lumley. The prisoner protested his innocence throughout, saying that the woman had been very ill when she came to him, and that he had done the best he could for her. The jury convicted him of manslaughter, and the police gave evidence to the effect that although he had never been before charged he had long been an object of suspicion, and that patients whom he had attended had died on previous occasions when there had been reason to believe that they had been the victims of illegal operations. Mr. Justice Avory, in passing a sentence of seven years' penal servitude, told the prisoner that it was only by a lenient interpretation of the facts that he had not been convicted of murder, and that the evidence showed him to have been perfectly ready to adopt the course which he undoubtedly did adopt with regard to Gorringe.

Revolvers Again.

In THE LANCET of Oct. 21st, 1911, p. 1144, reference was made to the trial then pending of a gang of ruffians, many of them habitually armed with revolvers, whose violence had culminated in acts which had led to their arrest. They were tried at the Old Bailey before Mr. Justice Avory with the result that four were convicted of inflicting grievous bodily harm upon a man with whom they had quarrelled, and whom they attacked chiefly with broken glass as a weapon, one of shooting at a person unknown, one who pleaded guilty of an assault, and two, also pleading guilty, of being concerned in a riot. All received long sentences of imprisonment with hard labour, to which penal servitude for three years was added in two instances, and the man convicted of shooting received a sentence of three years' penal servitude. In one of their fights among themselves a lad not connected with their quarrel had been severely injured. At the conclusion of the trial Mr. Justice Avory, whose experience of the revelations of criminal trials is second to none, made the following comment: "I wish to say before I leave this case that the condition of things disclosed by this evidence, that a portion of London should be infested by a number of criminal ruffians armed with loaded revolvers, is a state of things which ought not to be further tolerated, and if the existing law is not strong enough to put a stop to it, some remedial legislation is necessary." THE LANCET has protested for many years against the unrestricted sale, and unhindered carrying, of pistols, which are now far more dangerous weapons and much easier to obtain as such for a small price than they were 10 or 20 years ago. It should be made a serious offence to carry such a weapon on the person in any public place or to possess one without a licence. This should not be obtainable without close investigation of the applicant's character and of the uses to which he is likely to put it, and a heavy duty, to be remitted where remission is desirable, should further restrict the sale of such weapons. In support of these views we may point out that another prosecution for carrying a loaded revolver without a licence has taken place. We hope that Mr. Denman's weighty plea for effective legislation against this evil, then made, will not fall on deaf ears.

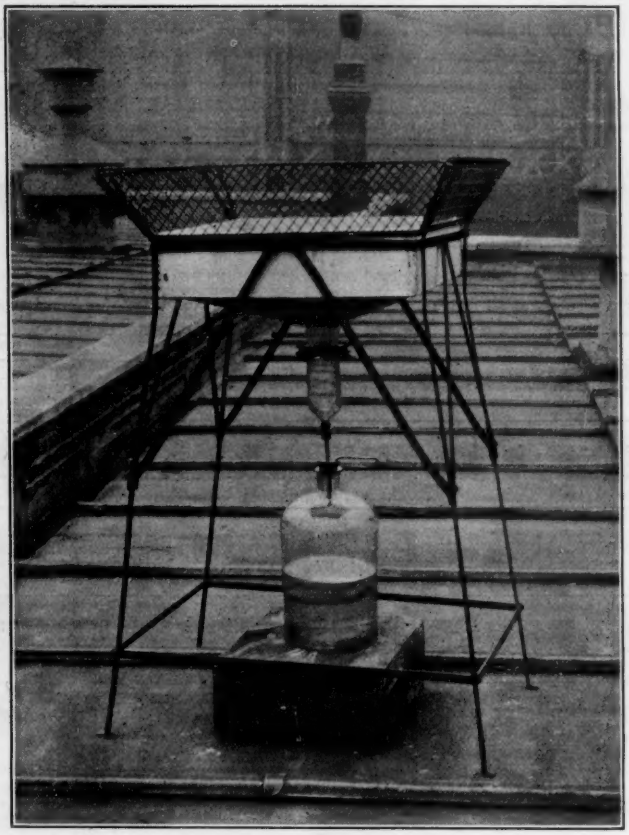
Dr. R. Murray Leslie, senior physician to the Prince of Wales General Hospital, Tottenham, has been specially presented by the French Consul-General to M. Cambon, the French Ambassador, who personally conferred upon Dr. Leslie the decoration of Officier de l'Instruction Publique et des Beaux-Arts, recently awarded to him by the French Government.

THE SOOTFALL OF LONDON:

ITS AMOUNT, QUALITY, AND EFFECTS.

AN APPEAL FOR SOOT-GAUGE OBSERVATIONS.

THE positive readings of the soot-gauge disclose the defects of the coal fire. The black carbonaceous deposit is an evidence of faulty combustion and wastage of fuel; it means also the emission of products injurious to health, corroding to building fabrics, and often enough opaque in the aggregate to the sun's radiations, so reducing day to the darkness of night. The revelations of the soot-gauge are therefore of the utmost significance in regard to public health, comfort, and convenience. In great towns and cities an importance might reasonably be attached to the regular recording of sootfall equal to that of rainfall, but the soot-gauge so far has not been included amongst the instruments at the stations where meteorological observations are made. The present investigation shows that such observations would be valuable, and their record would most probably lend the greatest assistance to the pleadings for a clean, unsullied air. At present the readings of the soot-gauge merely prove the existence of a serious evil amongst us, and also that there is every reason why this evil should receive regular registration and treatment. It is to be hoped that the time will come, however, when the soot-gauge will be an entirely superfluous instrument as an auxiliary in weather observing stations, an obsolete apparatus the use of which would be ludicrous in improved conditions. The following account of some observations made in this direction shows, however, that that fortunate time is not now.



The soot-gauge on a roof in Westminster.

A JUSTIFICATION FOR THE APPEAL

In the early part of 1910 Dr. H. A. Des Vœux, honorary treasurer of the Coal Smoke Abatement Society, and Dr. J. S. Owens, A.M.I.C.E., consulted our Laboratory Commissioners in regard to making some experiments in the direction of estimating the matters deposited from London atmosphere at regular intervals over a period of a year at various stations in the metropolitan area. A scheme was eventually formulated and the first serious experimental observations were made on June 13th, 1910. Three stations in London were chosen: A, situated in Buckingham Gate, S.W.; B, situated in Horseferry-road, S.W.; and C, in Old-street, City. To these a station, D, on the borders of the metropolitan area at Sutton, Surrey, was added, which it was thought would furnish results enabling an interesting comparison to be made with the results obtained at the foregoing stations. The apparatus employed to catch the deposit is shown in the accompanying illustration which is reproduced from a photograph. It represents a kind of hopper or wide funnel measuring at the top 2 feet square, terminating in a narrow tube below, connected with a capacious bottle. At first the plan consisted in using glass wool filters to keep back the deposit, but the rain percolating these filters was found to reduce their original weight considerably, and so it was decided to catch both rain and deposit without the intervention of a filter in the same apparatus and separate them subsequently by filtration in the laboratory. It is obvious that in the event of rain occurring the deposit collected would yield up its soluble parts to the rain water, and so whatever its original weight may have been it would fail to be recorded if a filter were used. The bottle containing the rain and the collected deposit were sent as far as could be conveniently arranged at intervals of a month to THE LANCET Laboratory for examination. The interval July 14th to July 28th was a shortened one owing to a heavy fall of rain. The observations lasted over a period of a year, commencing on June 13th, 1910, and ending June 13th, 1911. One or two irregular periods could not be avoided, but the totals represent an accurate period of one year's fall. In one case, however, an observation was prevented from being made through an accident to the bottle. This was at Sutton, Surrey, during the period November – December, 1910, so that the total deposit recorded for that station is for 11 months instead of 12, as applies to all other cases.

The table speaks for itself, and the results will repay a detailed study. The observations during each month are summarised for the year in the last four lines of the table, and a calculation based on the local experiments made appears in the last column but one, giving some idea as to the enormous deposit that probably occurs over the entire administrative area (117 square miles) of the County of London during a month and the total for a whole year respectively.

A SUMMARY OF THE RESULTS.

Summarised, the results, as indicated in the table, are as follows:—

Total deposit.—This is greatest in the City area, amounting to about 650 tons per square mile per year. In the S.W. district the average amount was 460 tons per square mile per year, while on the same calculation the fall immediately outside the metropolitan area was 195 tons per square mile per year. The maximum fall in the City district was in the period October–November when there were local fogs; the maximum fall in the S.W. district was in July–September, but the deposit contained autumn leaves. Without leaves

LONDON'S COAL SMOKE DEPOSIT.

Station.	Period.	Rain volume (area 4 square feet).	Total deposit (area 4 square feet).	Insoluble deposit (soot, &c.).	Total solids dissolved in the rain.	Soluble volatile solids.	Soluble fixed solids.	Sulphate (SO_4)	Ammonia (NH_3).	Chlorine in chlorides (Cl).	Lime (CaO).	Total deposit per square mile.	Total deposit on administrative County of London and City, 117 square miles.	Remarks.
		Litres.	Grammes.	Grammes.	Grammes.	Grammes.	Grammes.	Grammes.	Grammes.	Grammes.	Grammes.	Tons.	Tons.	
A. Buckingham Gate, S.W....	June 13th to July 14th, 1910.	24·5	5·076	2·920	2·156	0·490	1·666	0·271	0·612	0·245	—	35	4,095	
B. Horseferry-road, S.W. ...		25·7	4·347	2·600	1·747	1·028	0·719	0·326	0·257	0·205	—	30	3,511	
C. Old-street, E.C.		22·8	4·750	3·260	1·550	0·460	1·090	0·271	0·456	0·228	—	33	3,861	
D. Sutton, Surrey		29·0	2·872	0·900	1·972	1·160	0·812	0·068	Trace.	0 145	—	19	—	
A. Buckingham Gate, S.W....	July 14th to July 28th.	7·4	3·310	2·430	0·880	0·288	0·592	0·451	0 222	0·081	—	23	2,691	
B. Horseferry-road, S.W. ...		15·4	2·210	0·670	1·540	0·616	0·924	0·244	0·154	0·077	—	15	1,755	
C. Old-street, E.C.		10·8	4·596	3·300	1·296	0·648	0·648	0·363	0·216	0·086	—	31	3,627	
D. Sutton, Surrey		8·0	1·244	1·220	1·024	0·576	0·448	0·048	Trace.	0·041	—	8	—	
A. Buckingham Gate, S.W....	July 28th to Sept. 6th.	19·4	6·667	4·650	2·017	0·776	1·241	0·349	0·485	0·213	—	46	5,382	Deposit contained leaves.
B. Horseferry-road, S.W. ...		20·0	8·010	2·090	5·920	4·720	1·200	0·354	0·800	0·160	—	56	6,552	
C. Old-street, E.C.		18·6	9·074	6·090	2 984	1·865	1·119	0·652	0·186	0·179	—	63	7,371	
D. Sutton, Surrey		29·0	4·095	0·615	3·480	2·320	1·160	Trace.	Trace.	0·121	—	28	—	
A. Buckingham Gate, S.W....	Sept. 6th to Oct. 1st.	4·9	1·555	0·615	0·940	0·480	0·460	0·175	0·062	0·110	—	10	1,170	
B. Horseferry-road, S.W. ...		4·3	1·694	0·920	0·774	0·430	0·344	0·184	0·107	0·086	—	11	1,287	
C. Old-street, E.C.		5·4	2·550	1·340	1·210	0·396	0·814	0·079	0·055	0·121	—	17	1,989	
D. Sutton, Surrey		9·2	1·537	0·430	1·107	0·369	0·738	Trace.	Trace.	0·055	—	10	—	
A. Buckingham Gate, S.W....	Oct. 1st. to Nov. 1st.	20·3	8·210	4·950	3·260	1·630	1·630	0·780	0·203	0·349	—	57	6,669	Local fogs during the month.
B. Horseferry-road, S.W. ...		20 6	6·380	3·500	2·880	0·410	2·470	0·762	0·618	0·424	—	44	5,145	
C. Old-street, E.C.		16·3	14·950	9·090	5·860	1·630	4·230	2·167	0·326	0·433	—	104	12,168	
D. Sutton, Surrey		27·4	3·758	0·470	3·288	1·754	1·534	Traces.	*Nil.*	0·389	—	25	—	
A. Buckingham Gate, S.W....	Nov. 1st to Dec. 3rd.	33·7	5·920	3·230	2·690	1·350	1·340	0·650	0 337	0·754	—	41	4,797	Fog during the month.
B. Horseferry-road, S.W. ...		33·3	5·520	2·190	3·300	2 000	1·330	1·028	0·333	0·705	—	38	4,446	
C. Old-street, E.C.		32·4	5 370	2·780	2·590	1·300	1·290	1·458	0·810	0 518	—	37	4,329	
D.* Sutton, Surrey...		—	—	—	—	—	—	—	—	—	—	—	—	
A. Buckingham Gate, S.W....	Dec. 3rd to Jan. 12th, 1911.	32·0	7·620	3·140	4·480	2·304	2·176	0·864	0·320	0·416	—	53	6,201	Fog during the period.
B. Horseferry-road, S.W. ...		24·5	5·770	2·640	3·130	1·760	1·370	0·806	0·367	0·686	—	40	4,680	
C. Old-street, E.C.		30·5	7·340	3 200	4·140	1·220	2·920	1·250	1·220	0 730	—	51	5,967	
D. Sutton, Surrey		37·0	4·150	0·600	3·550	1·480	2·070	0·240	Trace.	0 550	—	28	—	
A. Buckingham Gate, S.W....	Jan. 12th to Feb. 12th.	3·0	7·690	6·510	1·180	0·390	0·790	0·435	0·300	0 366	—	54	6,318	Local fogs during the month.
B. Horseferry-road, S.W. ...		2·9	5·534	4·560	0·974	0 348	0·626	0·313	0·261	0·301	—	38	4,446	
C. Old-street, E.C.		3 0	10·868	9·260	1 608	0·580	1·128	0·906	0·600	0·312	—	75	8,775	
D. Sutton, Surrey		1·2	0 543	0·310	0·233	0·100	0·133	0·042	0·031	0·068	—	3	—	
A. Buckingham Gate, S.W....	Feb. 12th to March 13th.	20·3	7·557	4·950	2·607	1·711	0·896	0·611	0·509	1·140	—	52	6,084	Snow fell later part of the month.
B. Horseferry-road, S.W. ...		19·3	6·798	4·560	2·238	1·080	1·158	0·521	0 386	0·521	—	47	5,499	
C. Old-street, E.C.		10·0	9·630	6·770	2·869	1·380	1·480	0·754	1·000	0·330	—	67	7,839	
D. Sutton, Surrey		19 0	2·320	0·500	1·820	1·060	0·760	*Nil.*	*Nil.*	0·228	—	16	—	
A. Buckingham Gate, S.W....	March 13th to April 24th.	15·4	8·340	5·820	2·520	1·350	1·170	0·736	1·386	0·816	0·271	58	6,786	Snow fell later part of the period.
B. Horseferry-road, S.W. ...		8·0	4·500	2·860	1·640	0·708	0·932	0·596	0·723	0·445	0·147	31	3,627	
C. Old-street, E.C.		14·1	17·280	8·390	2·890	1·140	1·750	0·957	1·843	0·496	0·212	78	9,126	
D. Sutton, Surrey		18·7	1·633	0·810	0·823	0·524	0·299	0·120	*Nil.*	0·265	*Nil.*	10	—	
A. Buckingham Gate, S.W....	April 24th to May 24th.	14·4	7·220	5·320	1·900	1·100	0·800	0·475	0·432	0·518	0·417	50	5,850	
B. Horseferry-road, S.W. ...		13·3	5·955	4·200	1·755	1·011	0·744	0·509	0·798	0·358	0·286	41	4,797	
C. Old-street, E.C.		18·5	6·494	4·200	2 294	1·110	1·184	0·432	0·740	0·370	0·222	44	5,148	
D. Sutton, Surrey		16 4	3·164	1·180	1·984	1·088	0·896	0·193	0·160	0·208	*Nil.*	21	—	
A. Buckingham Gate, S.W....	May 24th to June 13th.	5·8	2·820	1·800	1·020	0·470	0·550	0 220	0·145	0·191	0·185	20	2,340	
B. Horseferry-road, S.W. ...		4·7	3·621	2·700	0·921	0·414	0·507	0·300	0·329	0·126	0·192	25	2,925	
C. Old-street, E.C.		9·6	5·911	3·300	2·611	0·922	1·689	0·754	0·090	0·230	0·825	41	4,797	
D. Sutton, Surrey		15·6	2·578	1·330	1·248	0·375	0·873	0·191	0·156	0·093	0·296	17	—	
Total for the year.														
A. Buckingham Gate, S.W. ...	1 year.	201·1	71·985	46·335	25·650	12·339	13·311	6·017	5·013	5·699	0·873	500	58,500	
B. Horseferry-road, S.W. ...		192·0	60·339	33·490	26·849	14·525	12·324	5·942	5·133	4·094	0·605	420	49,140	
C. Old-street, E.C.		192·0	92·813	60·920	31·893	12·651	19·242	10·043	7·542	4 033	1·259	650	76,050	
D.* Sutton, Surrey		210·5	27·894	8·365	19 529	10·806	8·723	0·892	0·347	2·163	0·296	195	—	

* This sample was lost owing to the breaking of the bottle. The results under "total for the year" represent therefore the deposit of 11 months in the case of the sample from Sutton.

the maximum deposit in the S.W. district was in October–November when local fogs occurred. The maximum deposit in the area just outside the metropolis was in the autumn months and December–January period.

The minimum fall of total deposit in the City area was in the period between Sept. 6th and Oct. 1st; in the S.W. district the minimum fall was in September; in the area just outside the metropolis the minimum fall was in July and between January and February, in spite of fogs during the last period.

Insoluble deposit (soot, &c.).—The greatest amount of insoluble deposit (soot, &c.) fell in the City between Oct. 1st and Nov. 1st and Jan. 12th and Feb. 12th when fogs were prevalent; the smallest fall was between September and October. In the S.W. district the insoluble deposit, on the whole, was less than that which fell in the City district, the maximum fall being in the period January–February, and the minimum in the period September–October. In the suburban district (Sutton) the fall of insoluble deposit (soot, &c.) was about a sixth of that falling in the metropolitan area, the maximum fall being, curiously enough, in the summer months, May, June, July, while the minimum fall occurred in the period January to February.

Soluble matters contained in the rain.—The soluble matters comprise ammonium and calcium salts, sulphates and chlorides, and some organic constituents. On the year's showing the City area leads again in regard to the amount of dissolved solids, the maximum amount occurring in the period October–November and December–January, the minimum appearing in September.

In the S.W. district the maximum soluble matters appeared in December and the minimum in the summer months. In the suburban district (Sutton) the soluble matters in the rain amounted in the year to about three-fourths the quantity found in the metropolitan area, the maximum fall being in July and the minimum in January, which is exactly the reverse of the metropolitan occurrences.

Soluble volatile solids.—These include ammonium salts and organic matters. The E.C. and S.W. districts were about level in regard to the amounts of soluble volatile solids contained in the falling rain. The maximum in the City district occurred in August and October, the minimum in June and September, while in the S.W. district the maximum occurred also in August (heavy rains), and the minimum in June and September (a dry period). In the suburban district the total amount of soluble volatile solids was much the same as that falling in the metropolitan area, the maximum appearing in August and the minimum in January and June.

Soluble fixed solids.—These include common salt and sulphate of lime. The fall in the City area was greatest, and in the suburban area least, the amount in the S.W. district lying between the two. The maximum fall in the City area occurred in October and the minimum in the preceding month, September. In the S.W. district the maximum occurred in October and December, and the minimum in September. In the suburban district the maximum also occurred in October, but the minimum appeared in March–April.

Sulphate.—The figures in this column are of particular interest, inasmuch as most, if not all, of the sulphur found in the rain may be traced to the combustion of coal and gas. The City area receives a much larger amount of sulphates than the S.W. district—nearly double as much; while in the suburban area there were occasions when sulphates were present only in traces or were not present at all. The maximum fall in the case of the City area occurred in October, November, and December, when there was fog, while the minimum amount was in September and generally in the summer months. In the S.W. district the maximum occurred in the same autumn and winter period, and the minimum again in the summer months. In the suburban district the maximum fall of sulphate occurred in December, while there were only traces present when elsewhere the fall was considerable.

Ammonia.—This is an interesting column, because ammonia is a product of the faulty combustion of coal, while coal gas, which is free from ammonia, yields none on combustion, even when this has been imperfect. The City area again receives the largest amount of ammonia in the rainfall; the S.W. district comes next with about three-fourths the quantity, while in the suburban area over the year the amount was about 1-20th of that which fell in the metropolis. The maximum fall in the city district occurred in March–April, when there were snow showers, but the figure was also high in the foggy period, November–December. The minimum occurred in September. In the S.W. district the results were much the same, while in the suburban district on eight occasions the amount of ammonia was inappreciable, even when there was snow. The purifying effect of snow upon the air has been practically demonstrated by analyses made of London's snow fall in THE LANCET Laboratory on several occasions (*vide* THE LANCET, Jan. 5th, 1907, and Jan. 2nd and March 6th, 1909).

It is interesting to note that as a rule the rain water falling in the metropolis is scarcely ever acid, in spite of its load of impurities. This point is of some importance since it is generally reported in regard to the rainfall of provincial cities such as Manchester, Leeds, and Glasgow that the water is invariably acid. London has no foundries, chemical works, or large power installations comparable with these places, and the inference is that the domestic coal fire keeps the rainfall of London neutral, or if anything slightly alkaline, with the ammoniacal tarry compounds of the smoke. In large manufacturing towns the blast furnaces of industry, in which the fuel is more or less completely burnt, swamp the alkalinity of the domestic fire with their acid emanations. Turning again to domestic heating, if gas were entirely substituted for coal in London the rain probably would be no longer neutral or slightly alkaline, but acid, because ammonia would then no longer be evolved from the domestic fire. This is an advantage in considering the effects of the soot-fall, a point on which there will be much more to say. It is not improbable that the presence of ammonium salts encourages rather than discourages the disintegration of building fabrics, since insoluble lime compounds—e.g., calcium carbonate—readily yield ammonium carbonate and soluble calcium sulphate, and ammonium carbonate attacks silica. Free sulphuric acid would also attack lime compounds, but would not affect the silica appreciably.

Chlorine in chlorides.—The presence of chlorides in the rainfall in London is a mystery. Both coal and gas are, at all events, free from chlorides. The amount in the London atmosphere is greatest during foggy or snowy weather, and the quantity washed out by the snow or rain or deposited moisture is much the same at the different stations. In the suburban districts the quantity through the year was about half that found at the metropolitan stations. Proximity to the sea, of course, accounts for an increased amount of chloride in seaside air, but in these experiments the amount was greater in the City and S.W. districts than it was in the suburban district (Sutton, Surrey), which is in a seawards direction from London.

Lime.—The presence of lime may be accounted for in the dust from building fabrics and in the ash of coal. It is present as sulphate in the rainfall, and sulphate of lime is a constituent of coal ash, but it is conceivable that ordinary carbonate of lime is the original constituent in the rain- and soot-fall, the carbonate being converted into soluble sulphate by interaction with the ammonia and sulphur in coal smoke. By an oversight the search for lime salt was only made on three occasions. It occurred in the greatest amount in the deposit taken from the City station, but it is interesting to note that there was more lime in the deposit at Sutton, Surrey, than at the S.W. stations in the metropolis.

THE QUANTITY AND QUALITY OF LONDON SOOTFALL SUMMED UP.

The last column of figures in the table deals with some stupendous facts. If we take the City station as the basis of our calculation as to the total amount of deposit falling annually upon the Administrative County of London, including the City, which is 117 square miles, this deposit amounts to no less than 76,050 tons, in which are present over 6000 tons of ammonia (NH_3), 8000 tons of sulphate (SO_4), 3000 tons of chlorine in chlorides, to say nothing of the carbon and tar.

If we take the S.W. metropolitan station as a basis the total deposit per year over the same administrative area would average 53,820 tons, in which are present over 4000 tons of ammonia (NH_3), about 5000 tons of sulphate (SO_4), and 4000 tons of chlorine in chlorides. The London rainfall in foggy seasons is also distinctly destructive to metal surfaces,

as decided traces of tin and lead were found in the specimens examined.

According to other figures in the table which refer to the suburban area the man who lives there would appear to enjoy something approaching an immunity from this appalling downpour of chemical substances.

Simultaneously with the inquiry respecting the soot-fall an investigation has been in progress to determine the nature of the deterioration of building stone, and to ascertain, quantitatively, the influence of the soot-fall in this direction. A number of difficulties have presented themselves at various stages of the inquiry, and although some valuable information has been obtained it is not considered sufficiently conclusive to justify any safe general inferences being made for the present.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 77 of the largest English towns, having an estimated population of 16,157,797 persons in the middle of the year 1911, 7795 births and 4911 deaths were registered during the week ending Dec. 23rd. The annual rate of mortality in these towns, which had been 15·7, 15·2, and 16·4 in the three preceding weeks, declined to 15·9 per 1000 in the week under notice. During the first twelve weeks of the past quarter the mean annual rate of mortality in these towns averaged 14·6 per 1000, and was 0·3 per 1000 above that recorded in London during the same period. The annual death-rates in the 77 towns in the week under notice ranged from 7·6 in Devonport, 7·9 in Bournemouth, 9·7 in Willesden, and 10·6 in Ipswich, to 23·0 in Burnley, 23·1 in Stoke-on-Trent, 24·0 in Bury, and 24·4 in Stockport.

The 4911 deaths from all causes in the 77 towns in the week under notice were 172 fewer than the number in the previous week, and included 291 which were referred to the principal epidemic diseases, against 238 and 305 in the two preceding weeks. Of these 291 deaths, 70 resulted from measles, 67 from diphtheria, 55 from infantile diarrhœa, 52 from whooping-cough, 25 from scarlet fever, and 22 from enteric fever, but not one from small-pox. The mean annual death-rate from these epidemic diseases was equal to 0·9 per 1000, against 0·8 and 1·0 in the two previous weeks.

The deaths attributed to measles, which had been 66, 52, and 71 in the three previous weeks, numbered 70 in the week under notice, and caused the highest annual death-rates of 1·4 in Stockport, 1·5 in Smethwick, 1·7 in Walsall, 2·2 in Nottingham, 2·4 in Burnley, 2·5 in Oldham, and 2·6 in Norwich. The deaths referred to diphtheria, which had been 57, 60, and 64 in the three previous weeks, further rose to 67, and included 24 in London and its suburban districts, 7 in Leeds, and 3 in Plymouth. The fatal cases of infantile diarrhœa, which had been 68, 45, and 68 in the three preceding weeks, declined to 55, and of this number 20 were recorded in London and its suburban districts, 4 in Manchester, and 3 in Wigan. The deaths attributed to whooping-cough, which had steadily risen from 16 to 53 in the seven preceding weeks, numbered 52; 9 deaths occurred in London, 6 in Birmingham, and 3 each in Portsmouth, Walsall, and Leicester. The deaths referred to scarlet fever, which had been 16 and 27 in the two preceding weeks, slightly declined to 25, and included 4 in Norwich, and 2 each in London, Birmingham, Manchester, Leeds, and Newport (Mon.). The 22 fatal cases of enteric fever were equal to the average in the six preceding weeks; 3 deaths were recorded in London, 3 in Sheffield, and 2 each in Manchester, Salford, and Rotherham.

The number of scarlet fever patients under treatment in the Metropolitan Asylums and in the London Fever Hospital, which had decreased from 2213 to 2041 at the end of the five preceding weeks, had further declined to 1912 on Saturday, Dec. 23rd, 1911; 182 new cases of this disease were admitted to these institutions during the week, against 248, 241, and 224 in the three preceding weeks. These hospitals also contained on Saturday, Dec 23rd, 1311 cases of diphtheria, 227 of whooping-cough, 90 of measles, and 71 of enteric fever, but not one of small-pox. The 1363 deaths from all causes in London were 27 fewer than the number in the previous week, and included 390 which were referred to diseases of the respiratory system, against numbers steadily increasing from 170 to 391 in the seven preceding weeks.

The deaths attributed to different forms of violence in the 77 towns, which had been 201 and 195 in the two previous weeks, further declined to 185, and 431 inquest cases were registered. The causes of 47, or 1·0 per cent., of the deaths registered in the 77 towns were not certified either by a registered medical practitioner or by a coroner after inquest. All the causes of death were duly certified in Manchester, Sheffield, Leeds, Bristol, West Ham, Bradford, Hull, Newcastle-on-Tyne, and in 41 other smaller towns. The 47 uncertified causes of death included 11 in Birmingham, 4 in Stoke-on-Trent, and 2 each in London, Warrington, Blackburn, Rotherham, Gateshead, and Swansea.

HEALTH OF SCOTCH TOWNS.

In eight of the principal Scotch towns, having an estimated population of 1,710,291 persons in the middle of the year 1911, 809 births and 609 deaths were registered during the week ending Dec. 23rd. The annual rate of mortality in these towns, which had been 16·8 and 17·9 in the two preceding weeks, further rose to 18·6 per 1000 in the week under notice. During the first twelve weeks of the past quarter the mean annual death-rate in these Scotch towns averaged 16·9, and was 2·3 per 1000 above the mean rate during the same period in the large English towns. The annual death-rates in the several Scotch towns during the week under notice ranged from 13·1 and 15·4 in Perth and Paisley to 22·0 in Aberdeen and 25·6 in Greenock.

The 609 deaths from all causes were 22 in excess of the number in the previous week, and included 69 which were referred to the principal epidemic diseases, against 58 and 59 in the two preceding weeks; of these 69 deaths, 38 resulted from measles, 10 from diarrhœal diseases, 10 from whooping-cough, 7 from diphtheria, 3 from scarlet fever, and 1 from enteric fever, but not one from small-pox. The mean annual death-rate from these epidemic diseases was equal to 2·1 per 1000, and was 1·2 per 1000 above the mean rate from the same diseases in the 77 large English towns. The deaths referred to measles, which had been 31, 23, and 32 in the three preceding weeks, further rose to 38, and comprised 25 in Glasgow, 8 in Aberdeen, 3 in Edinburgh, and 2 in Greenock. The deaths attributed to diarrhœal diseases, which had steadily declined from 19 to 8 in the five preceding weeks, slightly rose to 10, and included 8 of infants under two years of age; 5 deaths were registered in Glasgow and 2 in Aberdeen. The 10 fatal cases of whooping-cough were 2 in excess of the average in the three preceding weeks, and included 5 in Glasgow and 3 in Aberdeen. The deaths referred to diphtheria numbered 7, against numbers declining from 15 to 6 in the three previous weeks, and included 3 in Leith and 2 in Dundee. The 3 fatal cases of scarlet fever were equal to the average in the three preceding weeks; the death from enteric fever occurred in Glasgow.

The deaths referred to diseases of the respiratory system, which had increased from 113 to 126 in the four preceding weeks, declined to 118, but were 1 in excess of the number recorded in the corresponding week of 1910. Of the 609 deaths from all causes in the Scotch towns during the week under notice, 157, or 26 per cent., were recorded in public institutions, and 24 were attributed to different forms of violence. The causes of 15, or 2·5 per cent., of the deaths in the eight towns were not specified or not certified; in the 77 large English towns the proportion of uncertified causes did not exceed 1·0 per cent.

HEALTH OF IRISH TOWNS.

In the 22 town districts of Ireland, having an estimated population of 1,149,495 persons in the middle of the year 1911, 490 births and 401 deaths were registered during the week ending Dec 23rd. The annual rate of mortality in these towns, which had been 17·7 and 20·9 in the two preceding weeks, declined to 18·2 per 1000 in the week under notice. During the first 12 weeks of the past quarter the mean annual rate of mortality in these towns averaged 18·5 per 1000; in the 77 large English towns the mean annual death-rate during the same period did not exceed 14·6, while in the eight Scotch towns it was equal to 16·9 per 1000. The annual death-rates during the week under notice were equal to

19·9 in Dublin (against 15·7 in London), 18·1 in Belfast, 22·5 in Cork, 11·5 in Londonderry, 13·6 in Limerick, and 5·7 in Waterford; while in the 16 smallest of these Irish towns the death-rate did not exceed 17·2 per 1000.

The 401 deaths from all causes were 60 fewer than the number in the previous week, and included 39 which were referred to the principal epidemic diseases, against 25 and 35 in the two preceding weeks; of these 39 deaths, 16 resulted from whooping-cough, 9 from diphtheria, 6 from measles, 4 from scarlet fever, and 4 from diarrhœa, but not one from enteric fever or from small-pox. These 39 deaths from the principal epidemic diseases were equal to an annual death-rate of 1·8 per 1000; in the 77 English towns during the week under notice the mean annual death-rate from these diseases did not exceed 0·9, while in the eight Scotch towns it rose to 2·1 per 1000. The deaths attributed to whooping-cough, which had declined from 11 to 6 in the four preceding weeks, rose to 16, and included 8 in Belfast, 5 in Dublin, and 2 in Lurgan. The deaths referred to diphtheria, which had been 4 and 5 in the two previous weeks, rose to 9, of which 5 were registered in Dublin and 2 in Belfast The 6 fatal cases of measles, of which 4 occurred in Dublin, were one less than in the previous week. The deaths referred to diarrhœal diseases, which had been 7 and 13 in the two preceding weeks, declined to 4, all of which related to infants under two years of age; 2 deaths were recorded in Dublin. Three of the 4 fatal cases of scarlet fever were registered in Dublin.

The deaths referred to diseases of the respiratory system, which had increased from 77 to 105 in the three preceding weeks, declined to 83. Of the 401 deaths from all causes in the Irish towns 145, or 36 per cent., were recorded in public institutions, and 9 were attributed to different forms of violence. The causes of 19, or 4·7 per cent., of the deaths in the 22 towns during the week were not certified either by a registered medical practitioner or by a coroner after inquest; the proportion of uncertified causes in the 77 English towns did not exceed 1·0 per cent., while in the eight Scotch towns it amounted to 2·5 per cent.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments have been notified:—Staff-Surgeons: R. S. G. T. Bond to the *Melpomene*, on recommissioning; A. K. Smith-Shand to the *President*, additional, for three months' special course at metropolitan hospitals, on the return of the *Natal* to England. Surgeon: Q. H. Richardson to the *Natal*, on return to England.

ROYAL ARMY MEDICAL CORPS.

Surgeon-General A. T. Sloggett, C.B., C.M.G., principal medical officer of the Sixth (Poona) Division, has been selected for appointment as Principal Medical Officer of His Majesty's Forces in India (vice Surgeon-General Sir F. W. Trevor, K.C.S.I., C.B.). Lieutenant-Colonel L. T. M. Nash, on return from Karachi, has been appointed to the medical charge at Hounslow, vice Lieutenant-Colonel C. A. Lane, who has been detailed for a tour of service with the Southern Army in India. Lieutenant-Colonel T. B. Winter has been selected for appointment as officer in charge of the Military Hospital at Colchester, and to command No. 9 Company of the Royal Army Medical Corps, vice Lieutenant-Colonel F. H. M. Burton, transferred to Warley. Lieutenant-Colonel N. Manders, on return from Ceylon, has been posted to the Curragh with a view of replacing Lieutenant-Colonel G. F. Gubbin, who is about to retire. Lieutenant-Colonel J. M. F. Shine, at present commanding the Military Hospital at Fyzabad, has been selected for the higher rate of pay under Article 317 of the Royal Warrant. Lieutenant-Colonel T. McCulloch, on return from Calcutta, has been appointed to hold charge of the Medical Division, Royal Victoria Hospital, Netley. Lieutenant-Colonel E. A. Burnside has embarked for a tour of service in India for duty in the Ninth (Secunderabad) Division.

Major F. E. Gunter has been appointed Specialist in Advanced Operative Surgery to the Eighth (Lucknow) Division. Major W. T. Mould, from the Military Hospital at Dover, and Major J. M. Sloan, D.S.O., adjutant of the Royal Army Medical Corps School of Instruction at Aberdeen, have embarked for a tour of service in India. Major L. F. Smith has been appointed to command the Station Hospital at Nowshera. Major H. Herrick has taken up the command of the Military Hospital at Naini Tal. Major A. A. Seeds, at present doing duty at the Military Hospital at Hounslow, has been placed under orders to embark next February for a tour of service in the Second (Rawal Pindi) Division of the Northern Army in India.

Captain R. H. MacNichol, from the military hospital at Colchester, has been selected for appointment as Specialist in Dermatology and Venereal Diseases to the Royal Herbert Hospital at Woolwich. Captain S. M. W. Meadows has taken over charge of the Military Families Hospital at Tidworth, in succession to Captain R. V. Cowey. Captain O. Ievers, on return from a tour of service at Wynberg, South Africa, has been ordered to join in Ireland for duty and will be posted to the Dublin District. Captain V. H. Symons, from Bloemfontein, has been appointed to the Belfast District. Captain J. J. O'Keefe has been appointed to hold Civil Medical Charge at Roorkee in addition to his duties at the station hospital. Captain R. E. Humphrey, from Jhansi, and Captain W. Benson, in charge of the Cantonment Hospital at Rawal Pindi, have been placed on duty with troops proceeding from Bombay on board the transport s.s. *Plassy* on Jan. 11th for Southampton. Captain R. G. H. Tate has been selected for appointment as Sanitary Officer of the Third (Lahore) Division. Captain R. H. Bridges has taken up duty at Manchester as Adjutant of the Royal Army Medical Corps School of Instruction to the East Lancashire Division in succession to Major L. Wood, whose tenure of the appointment has expired. Captain G. E. Ferguson, on return from duty in Cyprus, has been appointed to the Southern Command. Captain E. M. Pennefather has been transferred from Buttevant to Fermoy for duty at the Military Hospital. Captain B. H. V. Dunbar, from Belfast, has taken up duty at Enniskillen. Captain J. D. Richmond, from Piershill, has been appointed to Inverness. Captain C. Bramhall, from Woolwich, has taken up duty at Birmingham as Adjutant of the Royal Army Medical Corps School of Instruction to the Wessex Division, in succession to Captain F. A. Stephens, whose tenure of the appointment has expired. Captain J. A. W. Webster has been transferred from Fermoy to the Military Hospital at Cork. Lieutenant R. H. Nolan has been granted eight months' leave of absence home from India on the recommendation of a medical board.

Lieutenant H. F. Joynt, from Hounslow, has embarked for a tour of service in South Africa. Lieutenant W. P. MacArthur has joined for duty at Mauritius. Lieutenant A. S. Cane has been appointed to the Medical Charge of Troops at St. John's Wood.

INDIAN MEDICAL SERVICE.

Colonel J. Smyth has been selected for appointment as Principal Medical Officer of the Secunderabad Brigade. Colonel D. ffrench-Mullen, on the termination of his appointment as deputy to the Principal Medical Officer, His Majesty's Forces in India, has taken up duty as Principal Medical Officer of the Sirhind and Jullunder Brigades. Lieutenant-Colonel R. Bird, C.I.E., professor of surgery at the Medical College, Calcutta, and surgeon to the College Hospital, has joined the suite of His Majesty the King-Emperor during his stay in India as Extra Surgeon. Lieutenant-Colonel J. Crimmin, V.C., C.I.E., has been appointed Presidency Surgeon of the Third District, Bombay. Major F. S. C. Thompson, superintendent of the Central Jail at Alipore, has been granted one month's leave of absence. Major H. J. Walton, civil surgeon at Baharanpur, has been appointed an Ordinary Fellow of the University of Allahabad. Major E. L. Ward, superintendent of the Central Jail at Lahore, has been appointed to officiate as Civil Surgeon at Lahore during the absence on deputation of Lieutenant-Colonel W. Ronaldson Clarke. Major A. M. Fleming, civil surgeon of Raipur, has been granted leave of absence home from India for one year on the recommendation of a medical board. Major E. F. G. Tucker has been appointed to officiate as Presidency Surgeon of the Second District, Bombay, as well as Marine Surgeon and Superintendent of the Lunatic Asylum at Colaba. Major G. E. Stewart, superintendent of Mahableshwar Sanatorium, Satara District, has been appointed a Magistrate for the district under the Code of Criminal Procedure. Major R. K. Mitter has been granted three months' privilege leave of absence.

Major J. L. Majoribanks has been selected for appointment as Deputy Sanitary Commissioner of the Western Registration District, Bombay. Captain M. F. Reaney, at present employed on special duty at Pachmarhi, has been appointed Civil Surgeon to the Wardha District. Captain R. McCarrison, agency surgeon at Gilgit, has been granted one year and three months' leave of absence home from India. Captain W. M. Houston, on return from leave, has been appointed Assistant to the Civil Surgeon at Poona. Captain W. E. Brierley has been appointed Specialist in Advanced Operative Surgery to the Seventh (Meerut) Division. Captain D. Munro, Bengal Presidency, has been permitted by the Right Honourable the Secretary of State for India to extend his leave of absence home by three months. Lieutenant R. B. Lloyd, medical officer in charge of the 31st Lancers, has been granted six months' leave of absence home from India on the recommendation of a medical board. Lieutenants F. W. Hay, S. M. Hepworth, and C. A. Wood, on arrival at Bombay by the transport s.s. *Dongola*, have been posted to Bangalore Cantonment to undergo a course of instruction in Indian sanitation; Lieutenant K. G. Pandalai will be similarly posted on arrival.

THE NAVAL MEDICAL DINNER.

The Naval Medical dinner was held at the Criterion Restaurant on Dec. 19th, 1911, Surgeon-General Christopher Pearson presiding. There were present Sir James Porter (Director-General of the Medical Department of the Navy), Sir W. Watson Cheyne, Sir Dyce Duckworth, Professor W. J. R. Simpson, C.M.G. (members of the Naval Medical Consultative Board), and more than 50 medical officers on the active and retired lists. At a meeting held before the dinner it was decided to make the dinner an annual event and to form a committee to carry out the arrangements.

DEATHS IN THE SERVICES.

Surgeon Gordon Moir, R.N., suddenly, at Plymouth, on Dec. 26th last, in his thirty-sixth year, from syncope, following pleurisy and pneumonia. The deceased officer received his medical education at Guy's Hospital, London, and shortly after qualifying in 1903 was appointed house surgeon at the Hertford General Infirmary, and the year following he entered the Naval Medical Service. He served on the *Nightingale*, which was engaged on river service in China. He was surgeon to the Devonport dockyard for two years, and in October, 1911, he went to the Royal Navy College, Greenwich. He was to have joined the *Vivid* at Devonport on Jan. 1st. He was very popular in the "Three Towns."

MEDICAL MEN AND MUNICIPAL HONOURS.—Since publishing our article under this heading (*vide* THE LANCET, Vol. II., 1911, p. 1722), it has been brought to our notice that we had omitted to mention that Mr. Lee Fyson Cogan, L.R.C.P. Edin., M.R.C.S. Eng., who for 26 years acted as medical officer of health of Northampton, is now the mayor of that borough. Mr. Cogan's honour is a well-merited one because to him Northampton owes in a large measure its improved sanitary conditions. He received his medical education at Guy's Hospital and at Bristol, and after qualification in 1870 obtained a residential appointment at the Northampton General Hospital. After relinquishing this appointment he acted in partnership for five years and subsequently entered upon a practice on his own account. During his tenure of office as medical officer of the borough, in spite of considerable opposition, he inaugurated many improvements, which resulted in a great reduction of the death-rate. He did much good work in bringing about the demolition of insanitary houses and in sweeping away slum districts. Under his *régime* the voluntary notification of consumption was adopted and measures were taken to check the ravages of the disease. After resigning the medical officership Mr. Cogan was elected on the council in 1904, again in 1907, and in 1910. He takes an active part in all that concerns the well-being of the borough and holds many important public and semi-public positions. He has been medical officer for the prison since 1882, is a Fellow of the Society of Medical Officers of Health, and surgeon to the Royal Victoria Dispensary, Northampton.

Correspondence.

"Audi alteram partem."

THE MEDICAL PROFESSION AND THE NATIONAL INSURANCE ACT.

To the Editor of THE LANCET.

SIR,—The opening of a new year is a particularly convenient opportunity of reviewing our positions, of altering where necessary our plans, and of freeing ourselves from embarrassing entanglements. We shall all be glad to leave behind us the misunderstandings, the misrepresentations, and the failures of 1911. We have had our fill of criticism of the conduct of those who have been engaged for months past in framing and amending the Insurance Bill, and the time has surely come when we should turn aside from this easy and profitless task and devote ourselves to the harder task of constructive work.

The Insurance Act is now the law of the land and will become operative in a few months, and unless the medical profession is to be hopelessly belated it must at once come into line and decide how it will deal with the new social condition this Act will inaugurate. I am particularly anxious to say nothing that can be divisive or stimulating to those political passions that slumber in the breasts of all of us, and I shall not transgress if I say that we have to accept as a fact a compulsory and contributory scheme of national insurance for the wage-earning portion of our population, involving the provision of "medical benefit" for the insured. I submit that the inauguration of this scheme offers the medical profession a chance of regularising its services to the industrial classes such as may never again be presented to it, and the most urgent need just now is that we should all realise this fact and brace ourselves to the task that is presented to us. I need do no more than repeat such familiar expressions as "The Battle of the Clubs," "Club Tyranny," and "Hospital Abuse" to convince your readers that the problem of giving "medical benefit" to the wage-earning class has not up to the present been satisfactorily solved. Now is our chance of solving it. Whether we will it or not the old order is to be changed, and it will be our fault if the change is not for the better both for our patients and for ourselves.

We must not be misled into thinking—as some of your correspondents appear to believe—that the Insurance Act definitely formulates the kind of "medical benefit" that the insured are to receive. The Act is wide and vague, and until regulations have been drafted and approved definite detail will be wanting. Herein lies our opportunity. It is for us to secure that these regulations shall express the mind of those among us who are best qualified to determine how "medical benefit" can at the same time be the best attainable for the insured and consistent with the dignity and honourable remuneration of the profession.

The British Medical Association should take a chief part in evolving the needed new system, but it must not be obsessed by its "six cardinal points," or imagine that to secure those is all that is necessary. I have hoped that the Fellows of the Royal College of Physicians and the Council of the Royal College of Surgeons would also aid in the solution of the problem. Certain is it that those who are connected with the hospitals of the country will have to lend their aid. For it is clear that the "medical benefit" that has to be organised must include not only that rendered by private practitioners, but also that supplied by the cottage hospitals and by all our larger general and special hospitals.

More than once you have allowed me to express the hope that the system of "contract practice" would not be rendered universal and inevitable by the regulations under the Insurance Act. I know there is some difference of opinion as to the merits or otherwise of "contract practice," although nothing that I have heard or read on this subject has materially lessened my objection to it. But even the entire abolition of "contract practice" would not solve the whole problem of "medical benefit": that is something far wider and more complex. This "benefit" has to be rendered by every branch and order of the profession, and its organisation

and correlation demands the best thought of the whole profession.

But, Sir, I must not occupy more of your space to enlarge upon this, and I will close this letter, already too long, by indicating what, in my opinion, should be done.

I think the profession should at once free its mind from prejudice and suspicion, and, accepting merely the bare fact that the State has called upon it to render "medical benefit" to the wage-earners of the community, should form itself into a committee or committees to formulate the scheme, which, in the opinion of the profession, will give the most efficient "medical benefit," and under conditions consistent with the honour and dignity of a scientific profession. Such a scheme must include in its purview the prevention of disease as well as its mitigation and cure, it must recognise and provide for the increasingly scientific character of "medical benefit," and it must correlate all the varied agencies for affording "medical benefit," not forgetting the offices of trained nurses. When the medical experts have decided how and under what conditions the medical profession can best aid the sick workman the plan should be presented to the Insurance Commissioners and the Local Health Committees. The question for us now to answer is, Shall the scheme of "medical benefit" be formulated by these bodies and pressed on the profession or shall it be formulated by the profession and pressed upon these bodies? I urge the latter course.—I am, Sir, yours faithfully,

Jan. 2nd, 1912. ALFRED PEARCE GOULD.

To the Editor of THE LANCET.

SIR,—A second call is being made upon us. I have sent more, but also a letter expressing the hope that the British Medical Association will stiffen itself. Is it not apparent that there is really a cleavage in the profession? The upper ranks would profit by the extension of contract work and the resultant degradation of the general practitioner. I have talked to various consultants who wonder at our attitude. "Would you not like to be an officer of the Medical State service?" is the pet question. I do not believe there are enough medical men in England to work the Insurance Act. Does everyone realise that on the removal of fee visits country practitioners would be obliged to curtail their radius? What, then, would become of inter-areas which medical men could not work? Under the check of fees for visits people will walk miles in the country to save a visiting fee, and will attend at the surgery. Surgeons will have to be appointed in each rural parish, and days of attendance at stations fixed. Elderly practitioners will have to give up. There will be no possibility of cultivating private practice. The country doctor's lot will be more unenviable even than that of the rural policeman.

There is not half enough money to be earned in a workable area by a medical man in the country, and if there were enough people no one man could do the work. The public would soon find such medical attendances very inferior to what they have hitherto had. Whatever town practitioners may do, the Act is unworkable in the country. Only fair visiting fees will keep down frivolous visiting demands. In my opinion, the direct question should be asked every general practitioner, "Are you prepared to boycott the whole affair and let things remain as at present instead of taking a perilous gambler's risk, in which loss would be fatal and thousands of old practitioners would be swept away before things could be rectified?" "Slum" practices alone may benefit from the Bill; every decent practice will be seriously injured.

Another grave matter, not till now mentioned, is the arbitrary and excessive powers of Insurance Commissioners to remove a doctor's name from the panel. With the wholesale visits we should all be let in for, numerous cases of "proved neglect" would occur and the removal of the doctor's name would precede advertisement for his successor, which in a rural district would mean ruin for many a medical man. Lord Haldane asserts that the Bill would not increase illness. No, but it would vastly increase visits from the removal of the fee visit check. This little point shows how utterly superficial is the knowledge of the Government on this serious matter when they cannot see that the medical visits will be enormously increased once remove the fee check. In any case the Commissioners' powers are too great for us to submit to. When we know exactly the numbers and social position of insurable persons then only can we construct own terms (unitedly) but fee visits must never be given up.—I am, Sir, yours faithfully,

L. L THAIN, M.R.C S. Eng.

Ewyas Harold, Hereford, Dec. 28th, 1911.

To the Editor of THE LANCET.

SIR,—Allow me to point out an argument in favour of payment by work done and against the capitation fee as contemplated by the Insurance Act. Most of the domestic servants would be sent home during an illness, and in many cases their homes are at a great distance from their employers, or quite in another part of the country. In such cases a servant would naturally enter under a doctor where she works, and he would get the capitation fee; but when she is at home the country doctor cannot attend her for nothing, nor can the Government pay twice over for the same patient. On the principle of payment according to work done there will be no difficulty in paying both doctors according to the amount of their work. This argument applies also to journeymen labourers and others who often work at a different part of the country from their own homes. I am, Sir, yours faithfully,

Cambridge, Dec. 26th, 1911. U. K. DUTT.

To the Editor of THE LANCET.

SIR,—The outlook of the profession is bad because it wishes to negotiate terms of service without resort to the arbitrament of war. At present the nostrums on which we rely are: (1) pledges, and (2) guarantees. Both will do for spectacular but not for war purposes. A man's first duty is to his family and himself, and not to the profession that has undercut him and left him with a past of ineradicable scars. So much for the pledges. As to the guarantees, what business man would give the profession 15 per cent. of their face value for them? It is clear we must place no reliance on these weapons of tissue paper. Our powers of offence and defence must be independent of blacklegs, &c. If we are sure this cheap service is dangerous to the community it is our express duty to wreck it and demand a new service at the hands of the profession and the legislature. If the Chancellor does not see his way to pay due regard to our opinions and intentions and tries to force upon us the present measure we must, at the time we are called upon to carry out his plans, call out the honorary medical officers of all voluntary institutions—also all students—and at the same time call on general practitioners to boycott the panel. The question also here arises as to the expediency of calling upon wholesale chemists to support the legitimate claims of the profession. There still remains two important considerations. The doctors if defeated may treat patients, but they will be under no obligations to prevent malingering nor the prescription of good drugs if expensive. Those under the whip should retaliate according to their power. In war like this sentiment has no place until the battle is over. War is war, and our weapons must be dictated, not by choice, but by necessity.

> For when things border on impossibility
> Fine scruples have no place in men's alternatives.

The Chancellor must not be looked upon in any other light than as a man contending for a high ideal, but who is the custodian of the public purse.

I am, Sir, yours faithfully,

CHARLES WRAY, F.R.C.S. Eng.

Members' Mansions, Westminster, Dec. 29th, 1911.

To the Editor of THE LANCET.

SIR,—The following extract from "Notes for a Law Lecture," by Abraham Lincoln, July 1st, 1850, is, I think, interesting at the present moment in connexion with the question of contract medical practice:—

> The matter of fees is important, far beyond the mere question of bread and butter involved. Properly attended to fuller justice is done to both lawyer and client. An exorbitant fee should never be claimed. As a general rule never take your whole fee in advance nor any more than a small retainer. When fully paid beforehand you are more than a common mortal if you can feel the same interest in the case, as if something was still in prospect for you as well as for your client. And when you lack interest in the case the job will very likely lack skill and diligence in the performance. Settle the amount of fee and take a note

in advance. Then you will feel that you are working for something and you are sure to do your work faithfully and well.

I am, Sir, yours faithfully,
T. CUMING ASKIN, M.D. Dub.

Alderton, Woodbridge, Suffolk, Dec. 28th, 1911.

To the Editor of THE LANCET.

SIR,—As this Act enacts that Local Insurance Committees shall recognise medical committees and consult them on questions affecting "medical benefits" and the giving of treatment to insured persons, it will give the best constructive results if doctors at once form local medical committees to decide what terms they will accept when the Local Insurance Committees ask them. To aid this action I have drafted some suggestions *re* the terms to be accepted by doctors. I shall be glad to send a few copies to any person asking me for them, on receipt of 1*s.* to cover cost of printing and postage. Doctors must act at once, as the Local Insurance Committees must take action within six months.

R. R. RENTOUL, M.D.

78, Hartington-road, Liverpool, Dec. 30th, 1911.

To the Editor of THE LANCET.

SIR,—A correspondent in your last issue asks questions as to the attitude of "consultants" towards members of the profession who may be willing to work under the Act.

May I ask what is likely to be their attitude in the matter of hospital service under this same Act? They for the most part fill the positions of honorary physicians and surgeons in our voluntary hospitals, and as such will be called upon to work the Act in so far as it affects, or will affect, hospitals and dispensaries. The patients of such institutions are for the most part of the class to come under the provisions of the Act, and I think it may be said the Act contemplates the coöperation of hospitals and dispensaries for its purposes while failing to make provision for their maintenance, leaving it for the charitable to provide the bulk of the funds as heretofore. Still it does give power to approved societies or insurance committees to make subscriptions or donations, but we may be quite sure these will not be made *ad misericordiam* but for benefit to be received—a business arrangement purely. Should not the staffs of our hospitals make it clear to the management, and also to those responsible for the carrying out the provisions of this Act, that they, too, will absolutely refuse to serve? Indeed, are not those numbered among the protestants, as such, committed to such a course? Under no circumstances should they longer continue to serve under the provisions of this Act except as salaried officials of the hospitals.

I am, Sir, yours faithfully,
Dec. 25th, 1911. PROTESTANT.

THE MORBID DIATHESES.

To the Editor of THE LANCET.

SIR,—The views of Mr. R. Clement Lucas expressed in his recent Bradshaw lecture at the Royal College of Surgeons of England respecting the medical diatheses are rather startling.[1] I have, however, reason to believe that they represent opinions which, if not generally avowed or expressed by the younger pathologists and surgeons, appear to be seriously held by not a few of them.

The line of argument adopted is that certain habits of body which have long been, and still are, recognised as specific and peculiar in respect of their intimate textural proclivities, and their reaction to disease, have no existence, and constitute but "fond imaginations" in the minds of the older physicians. These alleged constitutional habits are gradually being shown to depend exclusively upon specific microbic intrusions, and may therefore be dismissed from further consideration in the field of practical medicine. In short, the unit of pathogeny is henceforth to be completely expressed by a microbe. The soil, or textures, into which these vicious intruders penetrate and generate their toxins is to be regarded as quite immaterial; the *seed* alone is of any importance in the case. Human beings are all alike in tissue-tendency, albeit some are stronger and some are weaker, with similar constitutional reaction to all irritants and toxins, and with no special proclivities either to encourage or destroy any one of these. The older physicians are to be regarded as rather unwise men with feeble powers of observation. To-day we are living in the full light of noon, and are prepared to give rational explanations of almost all maladies and their progress, save a few for which as yet the specific microbes have eluded discovery.

Such views may possibly commend themselves to the minds of some modern surgeons and bacteriologists, but they do not happen to be in accord with careful observation and research in clinical medicine. Physicians, at all events, know full well that they have to deal with varieties of *soil* as well as of *seed*, and must regard both factors as of equal importance. Bacteriology, indeed, has abundantly tended to confirm the certainty of some of the diatheses described by our forefathers, and the old doctrine of the diatheses will never, as I venture to believe, be swept out of the field of scientific and practical medicine by any opinions or efforts of surgeons or bacteriologists.

I am, Sir, yours faithfully,
Dec. 27th, 1911. DYCE DUCKWORTH, M.D.

[1] THE LANCET, Dec. 23rd, 1911, p. 1755.

THE DIAGNOSIS AND TREATMENT OF URINARY TUBERCULOSIS.

To the Editor of THE LANCET.

SIR,—Dr. Newman's criticism of my remarks on nephrectomy in urinary tuberculosis in his letter in THE LANCET of Dec. 16th, 1911 (p. 1735), suggests a greater difference of opinion between us than really exists. The physician and the surgeon necessarily look at the question from a somewhat different point of view. Even the material upon which their opinions are based is likely to be different, for there will be a natural selection of cases made, by which the operable cases will go to the surgeon and the inoperable to the physician. The truth will lie midway, and will be reached by a combination of the two experiences.

It is evident that on the main points both are generally agreed: 1. That in advanced cases, where the disease is bilateral or the bladder involved, nephrectomy is out of the question. 2. That where the disease is unilateral and the bladder not affected, operation is desirable and that with as little delay as possible. The only question, then, is as to the ease and certainty with which unilateral renal tuberculosis can be diagnosed in its early stages, or, in other words, the other kidney be regarded as sound.

The early diagnosis of renal tuberculosis is not so very difficult in the present day if full advantage be taken of all the recent improvements in method. But there remains the question whether the disease is limited to one kidney, and the answer given to it is of the greatest importance, for it determines the advisability or not of the operation. Post-mortem evidence shows that both kidneys are affected in not less than 30 per cent., and that even in quite early cases the affection is not infrequently bilateral. It also shows that the disease may exist in the opposite kidney in so early a stage that it could not give any direct evidence of its presence.

Another set of statistics is furnished by the results of operation, in which the number of cases cured is recorded. Unfortunately this line of inquiry often proves unsatisfactory, because while most of the successful cases are recorded the unsuccessful ones are not. The figures do not sufficiently distinguish between the immediate and remote results of operation. The mortality of the operation has nothing to do with the problem. It is no doubt small. The question is not whether the patient died or recovered from the operation but what the ultimate result was, and whether the patient was cured of the disease. Walker's statistics as quoted by Dr. Newman are not clear, but it may be noted that out of the 210 cases only 20 are described as "cures." I do not wish, however, to labour this point. There are, no doubt, some cases, more it may be hoped than we think, in which the operation has been completely successful and the patient has remained healthy for years. No doubt with improved methods his percentage of such cases will increase.

But after all we come back to the degree of difficulty in being certain in any given case that the one kidney is sound. Those most skilful in diagnosis will make fewest mistakes, but I suppose that not even the most skilful and experienced would deny that there is a fair chance of error, and therefore risk; in less skilful and experienced the greater the

chance of error. The very ease of operation increases the temptation to the surgeon. Considering that nephrectomy reduces at one stroke the renal capacity of the body by one half, the caution I expressed is fully justified, and the conclusion warranted that nephrectomy is an operation which should only be undertaken after very serious consideration and with full understanding of the risks it involves.

I am, Sir, yours faithfully,

Wimpole-street, London, W., Dec. 29th, 1911. SAMUEL WEST.

To the Editor of THE LANCET.

SIR,—I am very pleased to see that in the issue of THE LANCET for Dec. 16th, 1911, Dr. David Newman has supported the surgical treatment of renal tuberculosis in reply to Dr. Samuel West's address to the Harveian Society. In the discussion which followed this address Mr. Hurry Fenwick and Mr. Thomson Walker brought forward the surgical aspect of the treatment of this condition, and I would add my own experience on this subject.

There is little doubt that the more recent methods of clinical observation have proved that renal tuberculosis is at first a unilateral disease, and is not so frequently bilateral as was concluded from the post-mortem evidence obtained from later stages of the disease. Further than this, it has been shown that in tuberculosis of the urinary apparatus the primary focus of the disease is in one or other kidney in the great majority of cases, whereas only a small percentage commence primarily in the bladder. Walker states (*Annals of Surgery*, 1907) that in a series of 279 cases of genito-urinary tuberculosis the kidney was first involved in 184 and the epididymis in 80.

In a recent article on "Primary Unilateral Renal Tuberculosis" in the *Guy's Hospital Reports*, Vol. LXIV., I have collected 92 cases of this disease, and in an appendix to the report have tabulated 13 cases which have been under my personal observation; to these I can now add two more recent cases, making 15 in all under my own care. Dr. Samuel West terminates his address with the remarks:—

> All that I wish now to do is to protest against regarding the removal of a tuberculous kidney as an operation to be lightly decided on. It is a very grave act, requiring the most serious consideration and in all cases involving grave risks. ..... The question is not whether the operation can be safely and successfully done, but what will be the condition of the patient afterwards and how far his chance of life will be altered for better or worse.

It is in reply to this question that I wish to place before the readers of THE LANCET the results obtained in these 15 cases under my own care. No surgeon with a knowledge of renal surgery would in the present day embark upon such an operation as nephrectomy without giving "serious consideration" in each individual case, without a complete examination of the functional activity and of the freedom from disease of the other kidney. Watson has shown that operative mortality of nephrectomy has fallen from 35 per cent. to 7·8 per cent. since these examinations have been conducted.

Of the 15 cases under my care, one refused operation, although seen in an early stage, and in spite of vaccine treatment gradually became worse, and died some two and a half years after. In the remaining 14 cases nephrectomy and complete ureterectomy was performed at one operation in 13 cases, and nephrotomy and erasion of a small focus in one. Of the 14 cases, one died as the result of the operation from suppression of urine and one has been lost sight of, having gone abroad some eight months after the operation. Two cases have only been operated upon during the last 15 months, and although both are doing exceedingly well since the operation, I exclude them, as sufficient time has not elapsed to speak of the result. Of the remaining 10 cases who have survived the operation for varying periods from two and a half to six and a half years, six cases can be stated to be definitely cured, whilst four are very greatly improved, although still troubled with slightly increased frequency of micturition. I hope that these figures, even though few in number, may help to convey a different impression than that left by Dr. West's address.

I feel strongly that the correct treatment for unilateral renal tuberculosis is nephrectomy combined with complete ureterectomy, and would mention the operation I have described in the *Guy's Hospital Reports* of a separate lumbar and ilio-inguinal incision, by which means a complete bridge of abdominal parietes remains between the two incisions to strengthen the resulting scar, and by which practically the whole length of the ureter can be removed intact with the kidney and renal pelvis by an extra-peritoneal operation. That vesical infection with tuberculosis is, unless very extensive, no contra-indication to the operation of nephrectomy I am certain, for I have seen not only very marked improvement in the general health and in the vesical symptoms in these cases after nephrectomy and ureterectomy, but I have cystoscopic evidence of the complete cicatrisation of tuberculous vesical lesions after the removal of the primarily affected kidney and the subsequent treatment with tuberculin.

Apologising for the length of this letter and the encroachment upon your valuable space,

I am, Sir, yours faithfully,

Wimpole-street, W., Dec. 30th, 1911. R. H. JOCELYN SWAN.

"UNICELLULA CANCRI."

To the Editor of THE LANCET.

SIR,—Sir Henry Butlin's lectures on the above subject, and the correspondence in your columns, have brought out very clearly a fundamental fact with regard to the cancer problem, and the mental attitude of the profession towards it. The profession has set out to define "the disease cancer" in particular, without first defining the meaning of "the disease" in general. Our science is at present sharply divided into two portions; in one "diseases" are scientifically defined, in the other they are undefined. I propose to show that "the disease cancer" lies at present in the latter category. Our defined diseases consist of four main groups. We all recognise "the diseases" of parasitism, of poisoning, of traumatism, and of incomplete development. Every one of these true diseases is "a mental conception, drawn from the observation of a series of symptom-groups of determinate and similar causation." For instance, in order to define "the disease typhoid fever" a series of cases has been observed, in all of which a certain microbe is parasitic, and in which a widely varying but characteristic symptom-group occurs. By thus correlating cause and effect in a sufficient number of cases we are enabled to derive a definite and reliable mental conception, to record a true disease. But it must be observed that the "cause" is the parasitism of the typhoid microbe, and this only. All antecedent conditions, leading to each individual attack, are absolutely excluded from our definition. The days of "predisposing and exciting causes" are over. Thus, when we speak nowadays of any true disease, such as typhoid fever, we imply distinctly that we possess definite knowledge of "the cause." A moment's reflection will convince any one that this does not apply to "the disease cancer." We speak, as a matter of fact, of "seeking the cause of this disease," whereas the definition of all true diseases rests on the antecedent correlation of cause and effect in a long series of cases.

The explanation of this extraordinary situation is not far to seek. It has been the custom in our profession from the earliest times to call every recurrent recognisable symptom-group "a disease," quite irrespective of the correlation of cause and effect. So that it is probably within the mark to say that for every true disease that is recorded in medical science there are to-day twenty spurious diseases. Bright's disease, Hodgkin's disease, Addison's disease, Graves's disease, diabetes, angina pectoris, myxœdema, pernicious anæmia, gout, asthma, insular sclerosis—these will serve as examples of recurrent symptom-groups from which we derive conceptions that are called, to our confusion, "diseases"; to our confusion, because they do not represent correlated cause and effect. No one will deny that "the disease cancer' belongs at present to the latter category; it does not coincide with the true diseases; it has not been proved to be due to parasitism, poisoning, traumatism, or incomplete development. The profession is halting between two opinions; either we do or we do not know what we mean by "a disease"; can we draw a distinction, for instance, between lead poisoning and Hodgkin's disease, or can we not? I say we can; because our conception of lead poisoning is founded on correlated cause and effect, while our conception of Hodgkin's disease obviously is not. If this be true, then cancer is merely a recurrent, recognisable symptom-group, of which the cause is still unknown. Modern research seems to me to have placed it almost

beyond doubt that the symptom-group called cancer is always due to one and the same cause; and that it is not due to parasitism, poisoning, or traumatism; in other words, that it is not due to a cause of extrinsic origin, to any interference from the environment. The manner of growth that characterises the cancerous tumour is, to my mind, to be accounted for only by some disturbance or dislocation, temporary or permanent, of the normal processes of growth; there is, as the older physician would have said, some constitutional flaw at work. The hopeful aspect of the situation lies in the fact that we already know a great deal concerning the antecedent conditions that lead to this constitutional dislocation in individual cases. It is enough to mention sweep's cancer, but of the "cause" we have as yet no positive knowledge. This ignoring of the constitution, of the intrinsic causes of disease, is not confined to the case of cancer; it has been a feature of modern medicine ever since "pathology" and its "organic diseases" took possession of our science. The search of our scientists is now for "the anatomical seat of the disease," to quote from the official "Nomenclature of Diseases," a phrase to which I defy anyone to attach a rational, not to mention a scientific, meaning.

In many cases of diabetes, asthma, epilepsy, insanity, hysteria, it is obvious to all that the cause of the symptoms shown does not arise in the environment of the patient; it must therefore arise in his constitution, it must be intrinsic in origin. Instead of recognising this fact, the cause is simply ignored in the definition of all such "diseases"; we call recurrent symptom-groups by the same name as our true diseases, with the result that one-half of our science is left unsystematised. An exception is made in the case of one group of diseases of intrinsic causation; incomplete development is recognised as a cause of disease on a par with parasitism, poisoning, and traumatism. The diseases of incomplete development are true diseases, because on the basis of correlated cause and effect we frame definite conceptions of them; how long will it be before the other intrinsic causes are recognised? If cancerous symptoms prove, as I believe they will, to be of intrinsic causation, it will not be possible to differentiate "the disease cancer" sharply from other conceptions, as typhoid fever is differentiated; it will merge insensibly into other diseases, such as keloid. There are always indefinite and arbitrary lines, and borderland cases, amongst constitutional diseases.

My case may be summarised by saying that three conditions, not one of which is at present recognised, must be complied with before the solution of the cancer problem can be reached; the definition of "a disease" as "a mental conception, drawn from the observation of a series of symptom-groups of determinate and similar causation," must be accepted as a definite and universal standard in medical science; the intrinsic causes of disease must be recognised as being on an equality, scientifically speaking, with the extrinsic causes. It is also essential that antecedent conditions—which belong to the individual, actual attack, and are variable—be clearly differentiated from the "cause," which is constant, and on the correlation of which with a recurrent recognisable symptom-group depends the recognition, the definition of every true disease. At its present stage the solution of the cancer problem demands, above all things, broad and clear thinking.

I am, Sir, yours faithfully,

Clevedon, Dec. 17th, 1911. SYDNEY W. MACILWAINE.

To the Editor of THE LANCET.

SIR,—Sir Henry Butlin—I think truly—says "students of cancer, research workers, biologists who have studied cancer, are all practically agreed that the cancer cell is derived from the cells of the part in which it takes its origin." At the same time I think the majority of scientists who are not in the above category feel that the parasitic theory of cancer falls more into line with the broader principles of medical knowledge. Personally I feel that the latter view is more likely to be correct, and welcomed Sir Henry Butlin's paper as supporting it. But after coming to the conclusion that the unicellula cancri is "an independent creature," it is a little surprising to find that he is obliged to bring in heterogenesis as the explanation of this. Surely one must make very certain that there is no other explanation possible before adopting a theory which is now almost universally discarded.

The ground on which he bases his belief that the cancer cell is formed within the body is the close resemblance of its appearance and reactions to those of the cells around. Cannot this, however, be explained as being an analogy in parasitology to what occurs in zoology in the case of protective adaptation to environment? In other words, may it not be that the cancer cell, by closely resembling in its reactions the normal cells around, escapes the vigilance of the phagocyte, and so is enabled to gain a footing and proliferate?

I am, Sir, yours faithfully,

Brook-street, W., Dec. 29th, 1911. J. BRUNTON BLAIKIE.

THE HEALTH SEASON IN EGYPT.

To the Editor of THE LANCET.

SIR,—Many people who are more or less invalids find it desirable to leave England during the winter months for some place where the climate is warmer and drier, and of these not a few naturally think of Egypt. I find that there is a more or less prevalent idea that there are reasons why, *this year*, Egypt should not be selected as a place of residence. So far as I can make out it is supposed that travellers run some risk: (1) from the war between Italy and Turkey; and (2) from the possibility of cholera breaking out in Egypt. As regards the war, a few minutes' consideration will convince any reasonable person that Englishmen run no risk whatever. Egypt, in spite of alarmist statements in some of the newspapers, has never been more tranquil than at present. The very slight disturbance in the lower quarters of Alexandria, which lasted for a few hours, some weeks ago, though much exaggerated in one of the London newspapers, was not to be compared for one moment with the riots which occurred in many English towns a few months ago and did not affect English residents or tourists at all. No other disturbance of any kind has occurred. The danger of any attack on life or property exists only in the minds of alarmists in England and is not seriously contemplated in Egypt.

As regards cholera, the precautions taken at the Egyptian ports are so stringent that an outbreak of cholera is practically impossible. I am pleased to find, too, from practical experience that the precautions are not confined to the ports, but that the address of every traveller who has touched at an infected port is taken and notified to the sanitary officer of the district or town he goes to. So that should a sporadic case by any chance pass the frontier it would be dealt with very quickly, and I believe effectively. Some discomfort—i.e., one or two days' detention on the steamer which has conveyed them—may be inflicted on tourists who have come from an infected port. But those coming from England by sea (not touching at an infected port) or those coming overland by Marseilles or by the excellent service *viâ* Trieste and Austrian Lloyd steamers would suffer no inconvenience whatever.

I am so convinced that residence in Egypt is as safe this year as any other year that I have brought out my wife and family, and I write these lines to do what is possible to dissipate the rumours I have alluded to.

I am, Sir, yours faithfully,

Helouan, Egypt, Dec. 11th, 1911. R. ACKERLEY.

THE EVOLUTION OF MODERN GYNÆCOLOGY.

To the Editor of THE LANCET.

SIR.—In the very interesting article on the Evolution of Modern Gynæcology, by Dr. Arthur E. Giles, in THE LANCET of Nov. 25th, 1911 (p. 1470), the honour of having performed the first complete extirpation of the uterus and ovaries by the abdominal route, and of having done the first successful hysterectomy for fibroid tumour, was given to Charles Clay of Manchester. Without desiring to minimise the remarkable achievements of Charles Clay in the early days of abdominal surgery, the above statement seems to demand some correction.

On Nov. 17th, 1843, Nov. 21st, 1843, and on Jan. 16th, 1844, Charles Clay opened the abdomen and removed fibroid tumours of the uterus. The third operation is the first recorded abdominal pan-hysterectomy. All of these operations were based upon the erroneous diagnosis of ovarian tumour, so that in no case was the operation started with

the intention of doing a hysterectomy. In 1842 Charles Clay had likewise made a similar mistake in diagnosis, but he abandoned the operation when he discovered the tumour was uterine.

The first deliberate hystero-myomectomy was that performed in June, 1846, by John Bellinger, of South Carolina, U.S.A. The patient, a coloured woman, died upon the fifth day from peritonitis. The first successful hysterectomy was performed by Walter Burnham, of Lowell, Massachusetts, on June 26th, 1853. This was not a deliberate operation, as Burnham considered the tumour to be ovarian. After the incision was made the patient vomited, forcing the uterus, the fibroid, and associated ovarian tumours out of the wound, and as Burnham was unable to replace the mass he did a supravaginal removal of the uterus, with ligation of the lateral arteries. A left ovarian tumour was removed and a right ovarian tumour also incised. The ligation of the ovarian and uterine arteries in the broad ligaments is similar to that of the modern operation. Burnham continued to do the operation from time to time, performing altogether 15 operations, but only three of his patients recovered.

The first deliberate and successful hysterectomy for fibroid tumour was performed by G. Kimball, of Lowell, Massachusetts, on Sept. 1st, 1853. Kimball had a clear concept of the diagnosis, and in his writings advocated the operation. Previous to 1856 Kimball operated four times for fibroid tumours of the uterus, with but one recovery. The successful operation of E. Koeberlé was not performed until April 20th, 1863. The first successful abdominal myomectomy is apparently that of W. L. Atlee, of Pennsylvania, performed on August 28th, 1844. This was not a deliberate myomectomy as the tumour was supposed to be ovarian, but the ovaries were found to be normal at the necropsy three years later.

The honour of having performed the first deliberate hysterectomies for fibroid tumour seems to belong to the following surgeons in the order named:—Bellinger, Kimball, Burnham, Clay, and Koeberlé. For a fuller discussion of the subject and a careful tabulated bibliography of the early operations for fibroid tumours, reference may be made to the article by Noble in the *American Journal of Obstetrics*, Vol. XL., No. 2, 1899.—I am, Sir, yours faithfully,

Philadelphia, U.S.A., Dec. 18th, 1911. W. WAYNE BABCOCK.

THE PRESCRIPTION OF TUBERCULIN.

To the Editor of THE LANCET.

SIR,—I can see nothing in Mr. Gamble's letter to modify my opinion. Whatever terms are used, and however explicit the physician may be to indicate his intentions, one comes back to the fact that he is ordering a specific fluid, and the dilution of that fluid must be calculated in measures. In my last communication I referred to Koch's bacillary emulsion, because at the time I was making dilutions of that fluid, but it applies with even greater force to Koch's new tuberculin T.R. 1 c.c. of this fluid contains the active bacterial matter of 10 milligrammes of tubercle bacilli, which represents 2 milligrammes of solid substance. I have seen the dose of T.R. indicated in decimals or fractions of a c.c. of that fluid, in fractions of a milligramme of tubercle bacilli, and in fractions of a milligramme of solid substance. Therefore it would be far better, and would avoid any possibility of confusion if it were always ordered in decimals or fractions of a c.c. of the original fluid. Personally, I prefer to work in decimals. I am, Sir, yours faithfully,

London, Dec. 19th, 1911. P. W. SQUIRE.

"GREEN" TEA.

To the Editor of THE LANCET.

SIR,—I have had a good deal to do with China tea, and therefore I am much interested in your annotation on p. 1786 of THE LANCET of Dec. 23rd. Your correspondent says that formerly Prussian blue was used for colouring the leaf in "green" tea. I should be very much obliged if you would ask him to supplement his interesting letter by stating what evidence there is of the former use of this pigment. The statement was freely made in this country some 35 or more years ago, and to it was largely due the disuse of green tea and the ruin of the trade in green tea in this country; but I do not think it was made on any sure basis of fact. For all that it may have been true, and I should be glad to know if your correspondent has any evidence to offer.

I am, Sir, yours faithfully,

Duchess-street, W., Dec. 29th, 1911. E. MUIRHEAD LITTLE.

SPONGE EDUCTION.

To the Editor of THE LANCET.

SIR,—In your issue of Nov. 11th, p. 1348, you have an annotation on "Sponge Eduction." This I read with much interest, but would point out that this is by no means a new form of treatment, and I do not think it had its origin in America, as you suggest. In 1889 Mr. A. G. Miller, surgeon to the Royal Infirmary, Edinburgh, regularly taught his students the advantages of applying prepared sponge for encouraging the growth of granulations. He termed his system "sponge grafting." His then house surgeon, Mr. Alexander Miles (now surgeon to the Royal Infirmary, Edinburgh), will doubtless recollect these successful experiments. In 1892 I was consulted by a lady with a large callous ulcer on her leg. She informed me that this had been present for over ten years and had resisted all treatment. Following the method taught by Mr. Miller, I sponge-grafted the leg, and in four months the ulcer had disappeared, leaving a firm cicatrix. I met my patient in 1908, and she informed me that the leg was in excellent condition and had given no further trouble. In numerous cases I have tried Mr. Miller's so-called "sponge grafting" to encourage growth of granulation tissue and invariably with good results.—I am, Sir, yours faithfully,

DAVID DONALD, M.D. Durh.,
L.R.C.P. & S. Edin., L.F.P.S. Glasg.

Victoria, British Columbia, Dec. 4th, 1911.

*** In this regard we may mention a letter in THE LANCET of Nov. 25th, 1911 (p. 1516), where the work of Professor D. J. Hamilton is quoted:—ED. L.

THE ACTION OF RADIUM ON MALIGNANT GROWTHS.

To the Editor of THE LANCET.

SIR,—Many explanations have been advanced as to how radium acts in cases of malignant growths. Some authorities, such as Wickham (Paris) and Finzi (London), maintain—and, I think, with good cause—that radium exercises a selective or specific action on cancer cells, while others, among whom may be mentioned Bashford (director of the Imperial Cancer Research) and Mansell Moullin, refuse to see any such selective action, and state the action of radium is merely that of a powerful caustic. Its action in such a case might be comparable to that of arsenic paste, zinc chloride, potassium bichromate, and other chemical caustics the application of which has occasionally given good results in cancerous growth.

A third theory, propounded by Deane Butcher, is that radium possibly acts as a vaccine, its rays exciting the leucocytes to the production of antibodies. In support of this it might be stated that the opsonic index has been found raised after applications both of X rays and radium.

Dominici,[1] in an interesting article, shows by means of microscopic sections the gradual retrogression of a case of sarcoma under the influence of radium. Briefly, the sarcoma is converted into a fibroma, which is eventually changed into scar tissue. The changes described are apparently of the same nature as those occurring in the "spontaneous or natural cure of cancer."[2]

Dominici, moreover, demonstrates that this fibroma is not made up of the vascular connective tissue which exists between the sarcomatous cells, but is a result of the transformation of the sarcomatous element itself. Briefly, this change, he says, is brought about in the following manner. 1. A metamorphosis of some of the protoplasma of the plasmodial elements as well as the sarcomatous cells into connective tissue fibres. 2. A transformation of the remainder of the protoplasma and of the nuclei of the sarcomatous elements into permanent fibrous tissue cells. 3. *The obliteration of the blood-vessels.* I have purposely

[1] Archives Générales de Médecine, Radium Number, July, 1909.
[2] Handley: Brit. Med. Jour., March 6th, 1909.

placed the last heading in italics, because here seems to me to be a possible explanation of the action of radium on new growths.

I have been using radium in my practice during the last two years, and the chief thing that has struck me about it is its wonderful influence on blood-vessels and lymphatics. The remarkable power that radium has in arresting hæmorrhage was referred to by several speakers at the last annual meeting of the British Medical Association. It may, in fact, be stated that its chief utility in therapeutics is its power of obliterating blood-vessels or spaces, as witness the way in which it removes various forms of nævi and angiomata. Now it seems to me that this action of radium on vascular tissues will equally explain to a large extent its beneficial influence in new growths. The obliteration of the blood channels which ramify in and supply the growth would in great measure tend to cut off its source of nutriment, which must eventually result in the death and disappearance of the growth.

I have been tempted to write the above not as anything new, the action of radium on blood-vessels being well known, but because as regards new growths this special property of radium seems either to be forgotten or kept well in the background.—I am, Sir, yours faithfully,

FERNAND L. DE VERTEUIL, M.D. Edin., M.R.C.S. Eng., L.R.C.P. Lond., Surgeon R.N. (ret.).
Vancouver, British Columbia, Dec. 17th, 1911.

MOTORING NOTES.

(FROM A SPECIAL CORRESPONDENT.)

The Advantage of Aluminium in the Construction of Pumps and Radiators.

AN unfortunate accident which took place recently through a low night temperature impels me to give this personal reminiscence, though it reflects in an adverse way on my care in automobile matters; still, my experience may be of service to others. My car is housed in an unheated shed, and to obviate the trouble of emptying and refilling the water-tank I have always added some 20 per cent. to 25 per cent. of glycerine—that is, 60 to 70 oz. of glycerine in each gallon of water used. When a recent seasonable temperature set in, I had only a winchester of glycerine in the house. This worked out at 36 oz. to the gallon, which I thought enough for one night's safety. That night the thermometer fell to 17° F., and, on inspecting the car on the following day, the pump was found to be frozen. With great care and gradual warm fomentations a thaw was effected, but a crack resulted in the water-pump casing. As chance had it, the casing was of aluminium instead of the more usual gun-metal. In this instance the lighter and softer substance proved an advantage. Without removing the pump the crack was thoroughly stopped by gently tapping with the end of a small hammer along the fissure. I think this shows the advantage of aluminium for radiators and pumps, for if a split occurs the careful use of a hammer will effect a cure. The moral, of course, is that when adding glycerine 70 oz. should be used for each gallon of water.

The Danger of a Flooding Carburetter.

I recently heard of a friend's car—it was an old 6 h.p. Wolseley—which, after a strenuous life of some eight years, finished its career by catching fire near Ladywell Bridge. An inquest revealed that as a result of wear, brought about by constant jarring, the needle-spindle of the carburetter just above the cone had worn, resulting in the formation of a slight exostosis or shoulder. This occasionally fouled and prevented the valve closing. The carburetter then flooded, the overflow pipe thus exuding petrol, and the mixture becoming too rich. In the case under consideration the exhaust pipe had become red hot and set fire to the escaping petrol. A little emery paper and elbow-grease on the carburetter valve-stem would have prevented this sad end of a noisy but capable and hard-working little runabout.

A Useful Petrol Filter.

Messrs. Brown Brothers, Limited, have placed on the market a filter which certainly separates every particle of foreign matter and water from the petrol. The petrol enters through a pipe from the upper part of the filter, and the pipe projects low down into the body of the filter. If there is any water or grit, this sinks to the bottom, whereas the petrol itself, being lighter, is forced up through a conical-shaped gauze strainer to the outlet, and thus to the carburetter. Beneath the filter a cock is fitted for draining off the impurities. Probably the commonest cause nowadays of a roadside stop is a choked jet, so this little accessory is worth considering by the owners of all cars on which a petrol-straining device is not fitted.

Regarding the Use of the Brakes.

When recently chatting with a repairer he was somewhat sarcastic regarding the lack of sympathy which many of his doctor clients had for the braking mechanism of their cars. The side brakes should be the chief ones to employ, as they do not cause any strain on the transmission. The trouble with most modern cars is that the side-brake lever is usually outside the body on most of the torpedo variety, and therefore rather difficult to reach, especially when the hood is up, thus fostering the bad habit of so many motorists, who chiefly depend upon their foot brake. The remedy would be for manufacturers to make the foot brake act on the wheels, and the hand one on the cardan shaft. This is done on one or two cars, and might be introduced with advantage on others. The engine itself is an excellent brake, and if the second, or on very steep hills the first, speed is slipped in, and the ignition turned off, most hills can be negotiated without using either brake. New shoes are, it is true, inexpensive. Still, they take a little time to fit, and by descending hills in this way the necessity for replacing these parts may be indefinitely postponed. Should the shoes wear, they can still be used if trued in the lathe and then covered with raybestos, which is composed of asbestos and brass wire and produces more friction than even metal to metal. It is supplied in varying thicknesses, so as to be adaptable to any worn drum or shoe. It should be fixed by countersunk rivets. It will also help to do away with the "chattering" that worn metal-to-metal brakes develop.

A Useful Step Mat.

At this season of the year all who desire to save the unpleasantness of having the interior of their car stained with muddy footmarks should fit some form of mat on the foot-board. Fibre mats when thus exposed to wet are apt to rot, and therefore the Duco Leather Step Mat is an improvement. This is made of leather, and is impervious to petrol and grease, and is durable. It is supplied either with or without a brass bound frame, and does not in any way detract from the appearance of the car—in fact, it rather adds to it—and ensures that the interior of the car will, in spite of the mud on the road and pavement, always look clean.

Regarding Monobloc, Twin, and Single Cylinders.

A good many readers have written regarding the advantage or the reverse of the monobloc over the twin and single cylinders. Like most things in this world, each type of casting has its advantages and disadvantages. I have chatted on this subject with motor manufacturers, engineers, and founders. The general opinion seems to be that for motors of low power, such as are usually used by medical men—that is, from 12 to 18 horse power—there is much to be said in favour of the cylinders being cast *en bloc*. They permit of smaller engine length, are rigid, and though the cooling may not be as uniform, still it is enough for low powers, and the cost of construction and erection is less, and therefore the selling price is also lower. The cost for the pattern is a little more, but this is more than made up for by the reduced expense for machining. With the monobloc all four cylinders can be bored and the base planed and drilled at one operation. Of course, it means as a rule only three bearings for the crank, but the old adage, "One throw, one bearing," does not apply to low powered explosion engines, and as a matter of fact even two crank bearings have been found quite satisfactory. The only real disadvantage is that when they are dismantled for cleaning or repair, they are heavier to lift and more difficult to replace. Still, a pulley can generally be easily rigged up, and with a little care and a helper, the job can be done. On this point I speak from experience, as I have carried it out myself. A further objection is the expense of replacement, should one cylinder crack. Well, this may be dismissed, as if glycerine is added to the water in winter,

and the engine is kept oiled and cooled, it is unlikely to need replacement. If it does, it is the owner's fault for failing to safeguard against avoidable risks.

BRISTOL AND THE WESTERN COUNTIES.

(FROM OUR OWN CORRESPONDENTS.)

Lord Haldane Elected to the Chancellorship of Bristol University.

AT a meeting of the University Court on Dec. 20th the Right Hon. Lewis Fry, who presided, proposed the election of Lord Haldane to succeed the late Mr. Henry Overton Wills as Chancellor. He spoke of the strong impetus to the extension of university education which Lord Haldane had given by work and word, and referred to the great powers of organisation which he had shown at the War Office. He spoke also of the distinction he had attained as a student of philosophy, and said that there was no one who would impart greater honour to the University than Lord Haldane. The proposition, having been supported by Mr. G. A. Wills, Professor T. H. Warren (President of Magdalen College, Oxford), Sir Isambard Owen (the Vice-Chancellor of the University), and others, was carried unanimously. It is understood that Lord Haldane will address the University during 1912 if his engagements permit.

Bristol Medical Men and the Insurance Act.

On Dec. 19th over 200 members of the medical profession met in the small hall of the University under the auspices of the Bristol division of the British Medical Association to hear a report of the recent representative meeting from Dr. George Parker and to discuss the situation. All the unfortunate bitterness and useless spirit of faction which have been only too conspicuous at some such meetings in the country were happily absent. This was due in large measure to the statesmanlike speech of the chairman, Mr. H. F. Devis, who said that much as the present position was to be deplored it was unfair to throw all the blame on the Council of the Association, since they were only carrying out the policy to which they had been committed by the Association's representatives. He regarded the outlook as gloomy, the position being this: that the securing of reasonable terms under the Act depended entirely on the local strength of the profession and the pressure which could be brought to bear upon the Health Committees. Nevertheless, he felt hopeful that the federation scheme put forward by the Bristol division would be accepted by the Association and by the profession as a whole, and that if so there would be an organisation powerful enough to fight successfully all the public bodies with whom the profession would be brought into contact. The principles of the proposed federation were explained by Mr. G. Scott Williamson—viz., democratic control, financial guarantee against loss due to the action of the federation, coöperative powers, recognition of vested interests, full money-raising powers, and unrestricted control over its own funds. Each member would pay an entrance fee of £2 and an annual subscription of £1 5*s*. After signing the memorandum of federation, as each member would have to do, he would make himself thereby liable for £5 in the event of winding up, and only in that event. Resolutions urging the adoption of this scheme by the Council of the Association, authorising its advertisement throughout the profession, and resolving upon a provisional call to local practitioners, were unanimously agreed to.

The Bristol Anti-tuberculosis Dispensary.

Bristol stands committed to the support of a tuberculosis dispensary similar in most respects to those already at work in Edinburgh, Paddington, and elsewhere. A house has been taken and furnished in Redcliff-parade, close to the principal thoroughfare connecting the centre of Bristol with densely populated areas on the Somerset side of the Avon, and only five minutes' walk from Bristol Bridge. For the first year, at least, it will depend upon a large sum of money given to equip and start the work by a lady who felt that such an institution was needed in Bristol. A whole-time medical officer, with previous experience in a similar institution, has been appointed, and the work will actually begin early in the year. It is being administered in connexion with the Civic League of Personal Service, which has absorbed and replaced the Charity Organisation Society in Bristol. Bristol is to be congratulated on priority in one respect; this dispensary is the first, I believe, to make definite terms with the local profession before starting. Patients will not be received unless they come from a qualified medical practitioner. This should prove a useful precedent in the solution of the out-patient problem, which demands solution nowhere more urgently than in Bristol.

Jan. 2nd.

WALES.

(FROM OUR OWN CORRESPONDENT.)

Tuberculosis in the Rhondda Valleys.

IN a report to the Rhondda urban district council on the compulsory notification of pulmonary tuberculosis, the medical officer of health, Dr. J. D. Jenkins, expresses the opinion that if suitable measures are taken in conjunction with the notification, and if those measures are prosecuted with thoroughness, diligence, and tact, it may be possible to eradicate the disease. The average yearly death-rate from phthisis in the Rhondda during the past ten years has been 0·96 per 1000 of the population. Dr. Jenkins estimates, therefore, that there are at the present time between 400 and 500 cases in this district, which has a population of nearly 160,000 persons. He considers that the steps to be taken as the result of notification should include advice to the patient and friends by officers of the council, with general instructions for the prevention of infection; the establishment of a tuberculosis dispensary and of an observation station—these for treatment as well as for the purpose of education in the adoption of means designed to prevent the spread of the disease and to maintain and improve the patient's condition after return home; and the formation of open-air schools. The observation station recommended could most suitably be established as an annex to the council's isolation hospital, for reasons bearing upon management, administration, and facilities for treatment, and could most conveniently be run in close connexion with a tuberculosis dispensary, which would naturally form the out-patient department of the observation station.

Verminous School Children in Carmarthenshire.

It is to be regretted that in his determined efforts to improve the physical condition of the Carmarthenshire school children the school medical officer of that county, Mr. D. A. Hughes, is not receiving adequate support from the members of the local education authority. He reported some time ago to the authority that in particular schools there was present a large number of verminous children, but no action such as is possible under the Children Act was taken, so that the only course open to him was to exclude the children in question from school attendance. This action brought down the average attendance so largely that the chairman and other members of the authority raised a protest and appeared to consider that it was quite a normal condition for a child to be infested with vermin and lice. The school medical officer, said one member, had very excellent theories, but it was a question whether the country had progressed sufficiently to enable them to be put into practice. For hundreds of years the children had been taught in a dirty condition, and if they were going to take drastic measures to change the habits of the people they would only bring the authority into disfavour.

Cardiff Mental Hospital.

The latest report of the Commissioners in Lunacy on the Cardiff Mental Hospital bears testimony to the excellent research work that is being carried out in the pathological laboratories attached to the institution. Mr. R. V. Stanford, M.Sc., a few months ago was appointed research chemist to the hospital, and Dr. H. A. Schölberg, who has been acting temporarily as pathologist, has now been appointed permanently to that position. In 1910 the recovery rate of the asylum, as reckoned on the total admissions of the year, was 46·7 per cent., an increase of 11·3 per cent. on the rate of the previous year. As many as 81·5 per cent. of those who recovered were discharged within ten months of their admission.

Jan. 2nd.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Scotland and the Insurance Act.

THE attitude of Edinburgh towards the Insurance Act has been indicated in THE LANCET and in the letters communicated to the daily newspaper press by medical men, and quoted in THE LANCET. In Edinburgh, as elsewhere, there has been a difference of opinion as to the failure or not of the Council of the British Medical Association to act up to the expectations of the bulk of the members of the profession. There has also been a corresponding difference of view as to the action of the Council in regard to Mr. Smith Whitaker's appointment. To understand the attitude of Edinburgh it is necessary to know that Edinburgh and Leith form one division of the Edinburgh Branch of the British Medical Association, and that Edinburgh and Leith have a Medical Practitioners' Association which is made up mainly of men who are members of the British Medical Association. The result is thus somewhat confusing to the outsider, for the same persons may appear to-day as members of the British Medical Association Division, and to-morrow as members of the Practitioners' Association. As regards the action of the Edinburgh and Leith Division of the British Medical Association, the members passed, by a large majority, a vote of censure on the Central Council; they also, by a majority of two to one, passed a vote of boycott on the Act, meaning thereby that they disapproved of forming Local Medical Committees under the Act. When the same body met as the Practitioners' Association within a week later there was no motion of boycott proposed, the main motion then being to form a National Medical Union, presumably after the fashion of Lancashire. The newspaper writing referred to has shown the two sides or two drifts of opinion. The one side says boycott *now*—have nothing to do with the Act, and tell the Commissioners so, or tell them that if they do not incorporate the six cardinal points in their regulations the profession will not form Medical Committees or in any way recognise the existence of the Act in their medical work. The other view is that the Medical Committees ought to be formed, that they should formulate the conditions under which work under the Act can be done, and, if these cannot be granted, that the doctors in the area will decline to work under it. The persons in favour of the first of these policies are enthusiastic, and think Scotland only needs a lead to adopt their policy all over the country. They think that the Insurance Commissioners for Scotland will issue regulations to the insurance areas with regard to the terms of medical practice, and they seem to make no allowance for the possibility of the Commissioners asking the different insurance areas to send to them the proposed terms of medical service. The practical question, if the Commissioners adopted the latter method, would at once be, Are the doctors in the areas to abstain from stating their terms beyond parrot-like reiteration of the six cardinal points? A policy of boycott in the insurance areas at the moment they are asked to state their terms more definitely would not in ordinary business be regarded as reasonable; at all events, it would only be reasonable if the profession in Scotland were unanimously to decide that the Act was so bad that they now and for ever washed their hands of it absolutely and completely, and would have nothing to do with it, save to pay their share of the taxes imposed by it. The impossibility of such unanimity may be gathered from two recent meetings—one, held in Glasgow on Wednesday, Dec. 27th, where a policy of boycott at the present stage got 36 supporters, but was defeated by "an overwhelming number of votes"; the other, held in Stirling on Thursday, Dec. 28th, of the Stirling, Clackmannan, and Kinross branch of the British Medical Association with a large attendance. At this meeting the following was unanimously agreed to:—

> In order to carry on negotiations with the Scottish Insurance Commissioners immediate arrangements be made for the establishment of Local Medical Committees throughout the area of the branch, and the subsequent appointment of medical representatives on the Local Insurance Committees.

The secretary was instructed to inform the Commissioners that every medical practitioner in the three counties covered by the branch had signed an undertaking not to enter into any arrangement for the medical treatment of patients until the six cardinal principles of the policy of the Association had been embodied in the regulations of the Commissioners. The policy of national boycott, at this stage of the proceedings, would thus appear to be unattainable. The argument, which is regarded as strong in favour of immediate boycott, is that the profession will be beaten in detachments by the Commissioners. In Scotland I have no apprehension on this point. The tone of the resolution of the Stirling branch is the tone of rural and urban Scotland, and will become more and more pronounced as weeks pass. The Scot has become *dour*, and when that happens there will be no quarter given by the profession in Scotland, in any county, to the Act and its backers, or to the Commission. Whatever may be the position in England, Scotland has never dreaded the guerilla war which seems likely to be thrown upon it. Here many men seem to have readily adopted the change in strategy which became necessary, and are confident that they will either get their terms in the areas or absolutely block the Act. The guerilla war, indeed, promises to weld the rural, and probably the urban, practitioners very closely together in the different areas. The policy of boycott, as a general policy for Scotland, does not therefore appear to be hopeful, unless the Commission turns out to be more stupid or more autocratic than is probable. Many of us who think boycott at present unstatesmanlike would be much pleased if the Commission acted so as to secure such a boycott all over Scotland, and there are points regarding which Scotland will not parley. So much may be taken as fairly expressing the opinion of Scotland, although I have not attempted to conceal my own leanings and my own optimism, based on what I have seen and what I know of the temper of the Scottish doctor at the present time.

The Proposed Scottish Central Committee.

One other important development has just reached a stage at which it can be referred to publicly. It has been an open secret for some time that the three Scottish medical corporations have been considering for weeks past whether they could do anything at the present juncture to help the profession in Scotland, seeing that Scotland was to have a separate Commission to work the Act. The problem was an exceedingly delicate one, and Scotland may, I venture to say, be congratulated on the solution which has been offered. The three corporations suggest the formation of a Scottish Central Medical Committee, to consist of representatives from the three corporations, from the four Universities, of the Scottish Committee of the British Medical Association, and of a representative practically from each insurance area. The corporations also practically offer to take their full share of the expense of the scheme. A statement has been made, and a meeting of the Scottish Committee will, it is expected, be also held shortly, with a view to determine what its attitude is to be towards this scheme. Needless to say, it is hoped that the Scottish Committee will put no obstacle in the way of their cordially coöperating in it. Such a central committee can act partly as a headquarters staff and partly as a body upon whom the Local Medical Committees can fall back for support against the Local Insurance Committees or the Commission. So far as can at present be seen the areas will insist upon having local option—that is to say, that while one area may determine to refuse to have anything to do with the Act, another area will formulate the conditions on which they can work under it. The policies are not really inconsistent; the difference lies in one set of persons dreading the local conflict, while another set is resolved to insist on getting the terms suitable to their area or not working. It will be months before any further progress can be made, and meanwhile the profession will have to consider some of the problems that will soon have to be faced, and also to determine whether a canvass may not have to be made on the point of boycott at the present stage, or at the next stage—that is, through the Local Medical Committees acting in coöperation with the Central Scottish Committee. All the omens point towards the profession in Scotland giving an excellent account of themselves in the coming struggle: they are resolved to get their terms or not to work.

Edinburgh Royal Infirmary.

The report of the managers of the Edinburgh Royal Infirmary for the year 1911 has just been issued. The total

number of patients treated in the wards during the year was 12,610, as against 12,342 in 1910. The average daily number of children in the wards was 81, as against 85 in 1910. The average daily number of patients in the wards was 846, against 842 in 1910. The largest number of indoor patients on any one date was 882, and the average time each patient was under treatment was 24·9 days. Of the total 12,610 cases, 4299 were medical and 7515 surgical. There were during the year 577 deaths. Of these, 196 took place within 48 hours after the patients' admission and occurred mostly in cases of severe injury or of a hopeless nature when admitted. The percentage of deaths to cases treated was 6·9, or 5·4 if the deaths within 48 hours be excluded. The out-patients during the year numbered 38,871. The total ordinary income was £37,142 2*s*. 2*d*., an increase of £1012 18*s*. 3*d*. on that of the preceding year, and the highest ever recorded in the history of the institution. Of the total income £21,632 17*s*. 9*d*. were derived from voluntary contributions, and this source showed an increase of £520 5*s*. 9*d*. over the amount of the previous year. Advances are also shown under all the other heads of ordinary revenue, the increase in payments for hospital tickets alone amounting to £173 1*s*. The ordinary expenditure amounted to £54,851 17*s*. 2*d*., an increase of £633 11*s*. 10*d* on the expenditure of the previous year. Of this increase £307 2*s*. 11*d*. falls under the house steward's department and is mainly due to increased cost of provisions. The cost per occupied bed (including the cost of the out-patient department) was £64 16*s*. 7*d*., an increase of 8*s*. 9*d* over the cost in the previous year. Of this increase 5*s*. 7½*d*. was due to increased cost of maintenance and 5½*d*. to increase in medical expenditure. Legacies and donations of £100 and upwards to the general funds amounted to £25,265 15*s*. 6*d*. Extraordinary expenditure amounted in all to £4586 18*s*. The chief items under this head were new quarters for the nurses, extension of the nurses' dining-room, and Professor F. M. Caird's theatre. The average number of nurses and probationers on the staff during the year had been 263 5. There were 640 applications for admission to the training school during the year. Seventy-six trained nurses had left during the year. The period of training for nurses had been extended to four years. In addition to the usual courses of lectures for nurses in training the fourth series of lectures for trained nurses was also given during the winter, the attendance having been very large. The total number of patients admitted to the Convalescent House, Corstorphine, had been 1199, as against 1192 in 1910. The daily average was 64·46 Of the total number admitted 964 remained three weeks or more. The total income of the Convalescent House for the year was £2570 5*s*. 5*d*., of which £2096 12*s*. 3*d*. was extraordinary revenue, and the expenditure amounted to £2835 15*s*. During the year the financial position of the Convalescent House and its relation to the Royal Infirmary had been considered by the board, and it had been found on examining old records that the house had been originally gifted "on condition that it should become an integral part of the infirmary and be kept in connexion with it." The board had, therefore, decided (1) to discharge the overdraft on the bank account as at Sept. 30th, 1910, amounting to £10,795, by a cross entry against the general fund of the infirmary; (2) to charge any debit balance at the end of each financial year thereafter against the general fund of the infirmary; and (3) that in the event of there being surplus revenue in any year the same should be "ear-marked," retained, and invested for the endowment of the Convalescent House. The accounts will, as formerly, be kept separate from those of the infirmary. In July, 1911, the Royal Infirmary was honoured by a visit from Their Majesties the King and Queen. The wards visited were No. 7 surgical, under the charge of Professor Caird, and No. 30 medical, under the charge of Dr. Byrom Bramwell and Dr. G. A. Gibson. The experiment in the treatment of incipient cases of mental disease which had been undertaken for one year in response to an application from the parish council had proved so far successful. Sixty-five cases of this nature had been admitted (25 males and 40 females). Of these, 30 were sent home recovered, 14 were discharged as improved, 3 remained *in statu quo*, 13 were certified, 3 died, and 2 remained under treatment. The physician in charge of the ward for incidental delirium, where the cases were treated, stated in his report that while the experiment had worked satisfactorily he did not consider that this ward, owing to the nature of some of the other cases dealt with as well as to the want of opportunities for recreation and out-door amusement, was the most suitable place for such treatment. The parish council subsequently inquired whether additional accommodation could be furnished pending the acquisition by them of a suitable institution for the treatment of such cases. The managers were reluctantly compelled to reply that they were unable to provide extended facilities, but intimated their readiness to meet the wishes of the council should they have any male cases urgently requiring treatment. The infirmary during the year had sustained the loss through death of several medical men closely connected with the work of the institution. Of former members of the staff there had died Dr. Andrew Smart, Dr. Peter Hume Maclaren, and Dr. Joseph Bell, the two last of whom had also rendered valuable service to the infirmary on the board of management. The death of Dr. Alexander Bruce had occurred while he held the post of ordinary physician to the infirmary, and after years of service which began in 1885, when he was appointed pathologist to the institution. The managers also deplore the death of the late superintendent of the infirmary, Colonel W. P. Warburton, C.S.I., which took place less than three months after he retired from office. In succession to Colonel Warburton the managers had appointed Lieutenant-Colonel Sir Joseph Fayrer, Bart., M.D., R.A.M.C. (retired), who entered on his duties on August 1st, having been for a month before that in daily association with his predecessor in the various departments of the work. Finally, the managers express anxiety as to the effect of the working of the National Insurance Act, and appeal to their fellow citizens to see to it that the splendid work of the Royal Infirmary be not impaired should any voluntary contributions be diverted from its support in consequence of the passing of this Act.

Milk-supply Regulations.

In a recent lecture on Milk and Human Tuberculosis the veterinary surgeon to the corporation of Glasgow enunciated his views on the control of our milk-supply. He stated that the Government had done practically nothing to safeguard the public health from tuberculous milk. In 1899 the Local Government Board amended the Dairies, Cowsheds, and Milkshops Orders so as to include tuberculosis of the udder, but they did not empower local authorities to slaughter the animals found to be affected. The consequence was that a dairyman who found that one of his animals was diseased simply passed it on to his neighbour. If the public wanted a pure and wholesome milk-supply the matter lay entirely in their own hands. They must demand that the Government take the necessary steps, and they must keep pressing that demand. He summarised his proposals as follows: (1) Withdrawing the power at present possessed by local authorities to frame regulations under the Dairies, Cowsheds, and Milkshops Orders; and (2) establishing a central authority to promote and maintain a pure and wholesome milk-supply. The advantages of placing the supervision and control under a central authority were obvious. It would take this all-important matter out of the hands of indifferent and, it might be, interested local authorities, and at the same time every cowkeeper would be enforced to conform to requirements applicable to the whole country. These requirements must provide, in addition to others, for (*a*) the annual licensing of every building used as a cowshed or dairy; (*b*) the seizure of milk grossly contaminated with filth; (*c*) the frequent examination by a veterinary surgeon of every milch cow; (*d*) the compulsory notification by the owner, or person in charge, of every diseased cow; and (*e*) the immediate slaughter of every cow affected with tuberculosis of the udder.

Jan. 2nd.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Honours for Irish Medical Men.

TWO medical men in Ireland are included in the list of New Year honours, both of whom receive knighthoods—viz., Sir J. Hawtrey Benson, President of the Royal College of Physicians, and Sir B. C. A. Windle, President of University College, Cork.

The Medical Inspection of Schools.

The subject of medical inspection of schools in Ireland is attracting more public attention than hitherto. Mr. J. B. Story discussed it recently in a lecture before the Statistical and Social Inquiry Society of Ireland. With regard to diseases of the eye, he stated that on every day that he saw out-patients in the Eye Dispensary he saw one or more children with some contagious form of eye disease, and there was no officially-arranged method of excluding them from school. Indeed, except for his certificate, which he was under no obligation whatever to give, the parents would be prosecuted if the children did not attend school. Every oculist in Dublin who had studied the question must have seen persons whose sight had been permanently injured by disease contracted from their school-fellows in National, industrial, or charitable schools. He estimated that the medical inspection of Irish schools would cost about £23,000, which could be raised by a rate of three-eighths of a penny in the pound.

The Irish Branch of the British Dental Association.

The Lord Lieutenant, speaking at the annual dinner of the Irish Branch of the British Dental Association, stated that medical inspection of schools was absolutely needed. To obtain it, the essential thing was to create a public opinion in its favour, and the means would then be provided. Many of the other speakers spoke of the anomaly of the Legislature in exacting certain requirements of knowledge and skill for the efficient practice of dentistry and neglecting to secure that practice to those certified as possessing such knowledge and skill.

The Poor-law Service.

It is becoming an increasing difficulty to obtain suitable candidates for many of the Poor-law appointments in Ireland. At a recent meeting of the Gorey board of guardians only one application was received for the vacant medical officership of Camolin, advertised at £120 per annum, with the usual emoluments. The applicant wrote stating that he would accept the position only on the salary being increased to £150. When called before the board, he pointed out that he would have to pay in rent £20, to keep a horse and man £60, which would leave £40 to live upon. The private practice was worth about £50 a year. It was decided to advertise again. The way to compel the guardians to give adequate salaries is to let their medical vacancies go seeking candidates.

The Medical Libraries of Ireland.

It is a matter of difficulty to anyone engaged in scientific work to know where he can most readily obtain access to such records as he may wish to consult. Those in charge of the medical libraries of the two Royal Colleges in Dublin have done their best to make their stores available to inquirers, but neither library has funds sufficient to keep complete files of even the most important periodicals. A few years ago the librarian of the Royal College of Surgeons issued a list of the medical journals taken in the various libraries in Dublin. This prevented much loss of time in fruitless search. The registrar of the Royal College of Physicians, with the help of Mr. Phelps, the librarian of the College, to whose courtesy all medical readers in Dublin are indebted, has recently issued a complete list of all foreign medical periodicals taken at any of the medical libraries in Ireland. This list also gives notes of the back numbers preserved. As there are in all 12 public libraries which take medical journals, the list will prove very serviceable in showing where particular periodicals are to be found. The library of Trinity College files all journals published in the United Kingdom.

The School of Physic Celebrations.

The bicentenary celebration of the School of Physic, Trinity College, has been fixed for July 4th, 5th, and 6th, 1912. Guests from many universities and medical corporations are to be invited. A provisional programme of the celebration has been arranged. It includes various receptions, garden-parties, and banquets, as well as university functions, at which honorary degrees will be conferred on distinguished visitors. A representative committee of medical graduates to coöperate in the celebrations will shortly be appointed. A meeting of graduates will be held in Dublin at an early date. It is hoped to get together an exhibition of objects, documents, and books connected with the history of medicine in Ireland.

The Belfast Water-supply.

The Belfast water commissioners have announced their intention of introducing a Bill next session to obtain an extension of time—from 1913 to 1925—for the construction of the Silent Valley storage reservoir on the Kilkeel river in the Mourne mountains, and to provide the necessary borrowing and rating powers of £500,000 for the works. It is proposed to increase the available rating power from 1*s.* 8*d.* to 2*s.*

The Insurance Act.

At a meeting of the board of management of the old age fund of the Presbyterian Church of Ireland, held in Belfast on Dec. 21st, 1911, a committee was appointed to examine the provisions of the National Insurance Act, with the view of the formation of an approved society under the Act for members of the Presbyterian Church in Ireland.

Pomeroy Dispensary.

The Local Government Board has written to the Cookstown board of guardians adhering to its previous communication that the initial salary of the medical man to be appointed to Pomeroy Dispensary be £100, as fixed by the guardians' scale of December, 1909. The guardians had appointed Dr. W. J. F. Mayne some weeks ago, at a salary of £80 a year, on the understanding that a midwife would be appointed at £20. The board of guardians has decided to adhere to its action and to keep the salary at £80.

Sanitary State of Omagh.

The Local Government Board has sent to the Omagh urban council extracts from the report of the medical officer of health regarding the condition of the urban district which show that nuisances have not been abated and that the district is not in a good sanitary condition. Fault is found with the water-supply, which contains peaty matter due to defective filtration and dirty pipes. Many of the sewers are defective, and the streets insanitary. The medical officer of health stated that his recommendations to the urban council on important matters had not been carried out and that the sanitary by-laws were not enforced. The report has been referred to the public health committee for consideration.

Omagh Asylum.

Five further cases of typhoid fever have been reported from this institution.

Down District Asylum.

In his annual report of this asylum the medical inspector draws attention to the fact that the number of patients had fallen from 767 to 753 at his last visit, which shows that this institution was an exception to the general rule that the number of insane requiring care is increasing in Ireland. The asylum could provide for about 70 more than it at present contains.

Diphtheria at Larne.

At a meeting of the Larne urban council held on Jan. 1st special acknowledgment was made of the humane and thoughtful act of Lady Dixon, who on the breaking out of diphtheria last year instructed the chairman to inform the medical men that she would supply antitoxin serum for all patients not in a position to pay for it.

Jan. 2nd.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Rhythmic Respiration to Prevent Breathlessness.

AT the Academy of Medicine, on Dec. 19th, 1911, M. Manquat communicated a method for obviating the breathlessness that ensues from rapid or uphill walking. It consists in maintaining the rhythm and speed rate of respiration within physiological limits, by utilising the natural powers of control over the respiratory and expiratory muscles. The rhythm and physiological speed rate maintain the cardio-vascular circulation in proper condition. The respiration can be rhythmically adjusted to the pace, by prolonging the expiration over about twice as many paces as the inspiration, and making not more than from 18 to 20 complete respiratory cycles in a minute. This method is also an excellent educative and therapeutic

measure, for it makes it possible to modify the breathlessness whenever the latter is dependent on any cardio-pulmonary trouble; under such conditions, however, it should be utilised with much circumspection and in a progressive manner.

Threats of Death to a Medical Man.

A recent incident recalls a drama which in the spring of the past year saddened the French medical profession—I refer to the assassination of Dr. Guinard by a disappointed patient. Some time ago M. Bosc, a sufferer from emphysema, was admitted to the Hôpital de la Pitié in the service of Dr. Babinski. On his becoming convalescent the administration of the hospital, having a demand for the bed occupied by him, requested him to return home. M. Bosc complied, but with great dissatisfaction. He presently wrote a letter to Dr. Babinski, in which he gave vent to his discontent, and reminded him of the fate that befell Dr. Guinard. Dr. Babinski prosecuted him in the Correctional Tribunal, and M. Bosc has been awarded a long sentence.

The Sale or Lottery of Eatables in the Fêtes Foraines.

The prefect of police of the Seine has issued a decree relative to the sale or putting up to lottery of eatables at *fêtes foraines*. This decree, in view of the fact that the sale or lottery of eatables susceptible of spoiling or decay presents a danger to the public health, forbids the sale or raffling at the *fêtes foraines* of meat, chickens, fish, shell-fish, preserves, or any other eatables except confectionery or pastry. Offenders will be tried before the ordinary police tribunal.

Antityphoid Vaccination.

In a communication to the Academy of Medicine on Dec. 19th, 1911, Professor Chantemesse referred to the question of antityphoid vaccination, the great value of which has been demonstrated by the experience of the army of occupation of Morocco. There is no room any longer for doubt as to its efficacy. Vaccination against typhoid fever has attained the same status as that against small-pox, and, above all, the vaccines put forward as a consequence of the labours undertaken 25 years ago by M. Chantemesse and M. Vidal in the laboratory of Professor Cornil, have given us this precious discovery. From that time M. Chantemesse has employed as a vaccine a culture of typhoid bacilli killed by heat. The later modifications of this technique have consisted of little else than changes of temperature employed in the heating of the culture or the addition of an antiseptic. Moreover, the results obtained with the vaccine of M. Chantemesse or its derivatives have proved comparable with those in the Moroccan campaign, for instance, in which four different types of vaccine have been used. There is no need for further experiment. In the American army 43,000 soldiers have been vaccinated during the last 18 months. The reaction that followed the operation has usually been insignificant. It was noteworthy in only one case in a thousand. Out of 43,000 cases of vaccination there were in all only four cases of typhoid fever, all of which were cured. Quite recently 15,000 soldiers of the army of Texas, mobilised on account of the troubles on the Mexican frontier, have been compulsorily vaccinated. In all, two cases of typhoid fever occurred, and these were followed by cure. Vaccination against typhoid fever is now obligatory in the American army. M. Chantemesse has installed at the Hôtel Dieu a service of gratuitous vaccination, which medical practitioners, internes, students, patients, and the public frequent daily in large numbers.

Therapeutic Applications of Colloidal Rhodium.

M. d'Arsonval has reported to the Academy of Sciences that as the result of investigations conducted at the Hôpital de la Pitié M. André Lancieu has succeeded in preparing colloidal rhodium in a perfectly stable form, having also a constant composition and a granular structure almost uniform and of extreme minuteness. Electric currents of high voltage and high frequency were the means employed in producing it. This colloidal solution has been used with much success in the treatment of a number of cases, often apparently hopeless and all of them the result of infection, including cases of pneumonia, typhoid fever, puerperal fever, and malaria. The administration was always by small injections, the pyrexia always subsided very regularly, and no mishaps ever occurred.

Death of Professor Lannelongue.

Professor Lannelongue died on Dec. 21st last, on the day after he relinquished the presidency of the Academy of Medicine, at the age of 71. His death took place in three days from the onset of pulmonary congestion. Professor Lannelongue was not only a surgeon of great ability, he was also, in every sense of the word, a great man. Having attained at a very early age the rank of *agrégé* of the Faculty of Medicine and surgeon to the Paris hospitals, he took charge during the siege of Paris of the ambulance station at the Luxembourg, which was organised by Madame Remusat, who subsequently became his wife. A member of the Academy of Medicine at 43, a professor at 45, he was a member of the Institute, President of the Academy of Medicine, Deputy, and finally Senator. He presided in 1900 over the International Congress of Medicine, which was for him the occasion of the donation of an important prize, and in the same year he founded in his native town, to which he bequeathed in advance his own house for this purpose, a popular museum of art. He was essentially a man of ingenuity. The ideas that he was enabled to put into actual operation, the methods that he worked out, will perpetuate his name in history more even than his career in the professorial chair at the faculty or his service at the hospital. As a surgeon he was an inventor even more than a practitioner, while his unwearying and active benevolence, his dedication of himself daily to public work, necessarily alienated a large part of his time from the practice of medicine. He founded the Institution for the Protection and Rehabilitation of Young Girls, the Dispensary Hospital Marie Lannelongue, in memory of his admirable wife, and also the establishment for young convalescent girls at Epinay-sous-Sénart.

Jan. 2nd.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

The Mysterious Epidemic of Poisoning in Berlin.

ON the morning of Dec. 27th it became known that in the municipal shelter for the homeless (Städtisches Obdach) 15 men had suddenly died with symptoms of poisoning and that some 20 more had become so seriously ill with the same symptoms that they had to be conveyed to the Friedrichshain Hospital. The above-named shelter is a refuge for people having no abode, who are admitted there without any formality for the night. The shelter is opened at sunset, actually at 4 P.M., and there are beds and bathing accommodation, and an evening meal, consisting of soup and bread, is supplied. The shelter is destined for men only; for homeless families a municipal shelter exists in another building. Apart from the municipal asylum there is a shelter in another quarter of the city, supported by private means, which receives men and single women in separate wings under nearly the same provisions as the municipal shelter. The latter has an accommodation for about 4000 people, and is especially overcrowded in the winter season. In the neighbourhood of the shelter is a street traffic of cheap comestibles, which the people are accustomed to buy for their suppers in addition to the soup supplied by the authorities, and it was first believed that the poisoning was caused by food purchased by the men outside the shelter. But this traffic had been prohibited on Dec. 26th and the two preceding days, because of Christmas and Sunday, so that this suspicion was abandoned. It was stated, however, that on the evening of Dec. 26th a man had sold within the shelter a box of red herrings to his fellows, and it was suggested that this box was stolen by him in the central market hall, where it had been thrown away as unfit for sale because the fish was spoiled. The symptoms resembled those of grave poisoning. According to the daily papers the patient suddenly felt very ill, had general convulsions, and soon fell into a state of apathy which led to a fatal issue within a few hours. A post-mortem examination was performed in two cases by Professor Strassmann, director of the Institute of Legal Medicine, the result being that the cause of death could not be ascertained, only some hæmorrhage in the intestinal mucosa being found. The bacteriological research also proved to be without result, and

the presence of an epidemic disease, such as cholera or cerebro-spinal meningitis, was disproved. The shelter was therefore opened the following evening as usual and no further case was expected. The morning papers of Thursday, however, reported 36 cases of death and 70 cases of illness. The authorities then took energetic measures. Five medical men were put on night duty in the shelter, and two motor cars for the transport of patients to the hospitals were ordered to wait within the court of the shelter during the night. The event proved the necessity for these measures, for on the following evening also new cases happened. A rumour circulated in the city that the poisoning was due to the soup distributed on behalf of the authorities, and this was expressly suggested by the Fishmongers' Association, which drew attention to the fact that only inmates of the asylum had been taken ill, and that within its knowledge no epidemic of poisoning by spoiled fish had broken out hitherto in Berlin. But the municipal authorities showed that the evening meal had not been supplied until 8 P.M. as usual, whilst the first cases had occurred at 6 P.M. On the evening of Thursday there appeared to be a decrease in the number of cases, but, on the other hand, cases now began to be reported from outside the asylum. In the neighbourhood of Berlin, of three men who had spent the night in a barn two suddenly died with the same symptoms of poisoning. This event caused great alarm, because it was believed that an infectious disease had now spread from the shelter to the outside. It was ascertained, however, through the evidence of the third man that the deceased had spent the last night in the shelter. The same was the case with some other seizures which occurred in the streets or police stations. On Dec. 31st 137 cases were registered, of which 68 have since died, and a great number are in a hopeless state in hospital. Two pavilions in the Friedrichshain Hospital have been exclusively reserved for new cases. The police are on duty in the shelter to examine the patients as to where they spent the last few hours or days, whence they got their meals, and so on, but owing to the apathetic condition of the patients it is exceedingly difficult to get any trustworthy replies. Moreover, the men belong to the very poorest and semi-criminal class and are little inclined to give to the police full particulars as to their life. In a number of cases the deceased are totally unknown, so that they were photographed on behalf of the police, and dactyloscopy was used for purposes of identification. Specimens of foods also from the grocers in the neighbourhood of the shelter were taken and examined. But notwithstanding the work of the medical officers it has so far been impossible to ascertain the nature of the disease. Professor Gaffky is of opinion that it is caused by intoxication with the bacillus botulinus, but the source of the poisoning is still absolutely unknown. According to the papers of this morning (Dec. 31st) the authorities no longer believe that the poisoning was due to spoiled food, but attribute it to cognac spoiled by methyl alcohol. Whether this extraordinary and improbable statement is correct it is impossible at present to say, but so great is the interest in the events at the shelter that the wildest rumours get abroad. It must be hoped that the source of the poison may be discovered as soon as possible, so that this epidemic of poisoning—one of the most extensive on record—may be checked.

Vital Statistics and Public Health in Prussia.

The annual report on the health of the kingdom of Prussia has now been published by the medical department of the Government. According to an epitome which has appeared in the *Aerztliche Sachverständigen-Zeitung*, the report states that the number of births has again decreased, being 21,253 less than in the preceding year, the rate being 32 living births for each 1000 of the population; this is the minimum since 1901, when the decline in the birth-rate first began, and has continued ever since. In 1876 the birth-rate was 40·9 per 1000, but in 1901 it was 36·5 per 1000. It is worth noting that the eastern districts, especially those inhabited by Poles, have far the highest birth-rate, whilst the lowest birth-rate is in Berlin—namely, 22·5 per 1000. The number of marriages has remained almost unaltered, but the number of children of each marriage has fallen. The death-rate has decreased from 18·03 per 1000 in the year 1908 to 17·1 per 1000 in the year 1909, so that notwithstanding the decreased birth-rate the population has become greater by 581,258, being an increase of 15 per 1000. The over-population of Germany continues to be a serious problem for the country. The principal causes of death were senile marasmus, diseases of the gastro-intestinal canal, especially in infants, tuberculosis, pneumonia, and diseases of the heart and blood-vessels. Among the exceptional causes of death there were 8422 cases of suicide, 876 of murder or manslaughter, 14,534 of fatal accidents, and 1096 of death attributable to alcoholism. The mortality of infants was 30·6 per cent. of the general death-rate. The city of Barmen in Rhenish Prussia had the lowest death-rate for infants and Berlin had the highest. On the subject of infectious diseases the report states that scarlet fever and diphtheria were increasing to some extent, while enteric fever, dysentery, and cerebro-spinal meningitis were decreasing. Some cases of cholera were registered in places near the Russian frontier. Pneumonia and influenza were prevalent during the inclement season in certain districts. Compulsory disinfection worked fairly well, although disinfection was sometimes neglected for personal reasons. There were 409 registered disinfectors. Vaccinations and revaccinations were performed in 1,941,988 cases; 30 deaths occurred as a result of vaccination, 15 of them being caused by local infections, such as erysipelas or cellulitis, and by generalised vaccinia; in 113 cases slighter troubles happened, so that altogether there were only 7 unfavourable complications per 100,000 vaccinations. The prevalence of venereal diseases could, of course, only be estimated as far as hospital patients were concerned; the number of cases has remained almost unaltered, being 47,474 as compared with 46,327 in the preceding year. In Berlin the incidence of venereal diseases was considerably over the average, being 63·9 per 10,000 of the population. The death-rate from tuberculosis has decreased, being only 15·6 per 10,000, as compared with 26·7 per 10,000 in the year 1891. Of 100 deaths in the year 1891 there were 11·6 caused by tuberculosis, but in 1909 the corresponding proportion was only 9·11. There were 230 cases of hydrophobia with 8 deaths, the mortality therefore being 3·48 per cent., notwithstanding the Pasteur treatment. Appendicitis proved fatal to 2128 persons. The number of deaths by poisoning was 1387, of which 592 were cases of accident, 772 were cases of suicide, and 23 were cases of murder. Among the accidental poisonings 47 per cent. were due to the effects of carbonic oxide, and among the suicides 28·5 per cent. resulted from poisoning by lysol. Death was due to morphine in 25 cases of suicide and 15 accidental poisonings. In the section dealing with public hygiene the results of the supervision of the sewers, sanitary arrangements, and water-supply by the local medical officers of health are reported. Special importance is attached to the providing of hygienic and cheap dwellings, and philanthropic associations for encouraging the construction of such dwellings were supported by the local authorities. The inspection of the food-supply was one of the principal duties of the medical officers of health, who worked in connexion with the public laboratories. There were 83 State or municipal laboratories in which 226,425 samples of food, exclusive of drinking water, were examined. In 27,729 cases, being 12·2 per cent. of the total, the quality of the food was unsatisfactory. It is remarked that the extreme dearness of butcher's meat has led to the consumption of rabbits and of horseflesh in some districts. In several samples of so-called fruit-juice not a trace of fruit was present, whilst, on the other hand, some beverages described as non-alcoholic were found to contain up to 3·5 per cent. of alcohol. The dangers of alcoholic excess were illustrated by the fact that 7528 inebriates were conveyed to the public asylums. Inebriety is reported even in the case of school-boys principally in Berlin, in some places in the east of Prussia, and in some factory districts. The temperance societies are commended as doing good work by establishing places for the sale of tea and coffee in factories, in mines, and in districts where over-indulgence in spirits was prevalent. On the whole, the abuse of spirituous liquors was steadily diminishing, but the excessive smoking of cigarettes was obviously on the increase, as already stated in the health report of the Imperial Navy. The number of hospitals was 3153, of which 2278 were general hospitals with 15,459 beds, where 1,222,063 patients were treated, the average stay in hospital being 30 days. The number of qualfied

medical men was 19,319; there were also 1789 qualified dentists and 4008 mechanical dentists (Zahntechniker). The nursing profession included 41,473 persons, 80 per cent. of them being women, who in the rural districts belonged for the greater part to ecclesiastical orders. It is stated that the latter class of nurses often engage in unqualified medical work. The number of pharmacies was 3453, all provided with licences arranged in three classes, and in addition to them there were 217 pharmacies established within and for the special use of hospitals. The report is a very elaborate one, and deserves the careful attention of all who are interested in public hygiene.

Legislative Proposals Relative to Unqualified Medical Practice.

After having been twice brought before Parliament the Bill relating to unqualified practice has again been dropped because of the closing of the Parliamentary session. It was after the first reading referred to a committee of the House, as mentioned in this column in THE LANCET of July 9th, 1911, and at this stage of its progress some members moved that if unqualified practice is done away with then medical men should be liable to punishment if they declined to attend patients who sought their advice. The Government disapproved of this proposal, but declared itself willing to ask the opinion of the medical chambers on that question. Obviously the above amendment was only intended to delay the passing of the Bill, and its Parliamentary opponents have succeeded so far that it will have to be reintroduced for the third time in the next session. In view of the forthcoming Parliamentary election, the *Deutsche Medizinische Wochenschrift* advises medical men to ask candidates whether they are favourable to the suppression of unqualified medical practice, and to vote only for candidates giving an answer in the affirmative.

Dec. 31st, 1911.

NOTES FROM SOUTH AFRICA.

(FROM OUR OWN CORRESPONDENT.)

The South African Memorial to King Edward VII.

THE appeal for subscriptions to establish an Order of Nurses in South Africa in commemoration of King Edward VII. is not meeting with the success that was anticipated. Nevertheless, a considerable sum has been received, and it is confidently expected that the committee presided over by Lady Gladstone will be in a position soon to bring forward definite proposals. A congress of Boer women, known as the "Zuid Afrikaanse Vrouwen Federatie," was recently held in the Transvaal, and Lady Gladstone took the opportunity of writing to the congress with the view to obtain its support for the scheme. The matter was discussed, and a resolution passed which seems to indicate that racial feeling cannot be eliminated in South Africa, even in connexion with a project for the alleviation of human suffering. The resolution was as follows:—

> The Zuid Afrikaanse Vrouwen Federatie feels the great necessity of such an institution for South Africa, more especially with regard to the country districts, particularly residents on farms, and would gladly give their hearty support to the establishment thereof, provided such institution be established in a true South African spirit with a purely South African Board, and this to be confirmed by a constitution. The Federatie expects all officials and nurses of the institution to be South African (Dutch and English), i.e., either born in this country or who have resided here for a period of not less than five years, and who are fully conversant with the nature, manners, and languages of the people. The Federatie strongly objects to imported nurses, since, in the absence of such knowledge, the relation between nurse and probationer or patient will be strained, and result in mutual dissatisfaction. The Federatie further takes exception to the following clause in the proposed constitution: "District nursing will constitute a subordinate part in the duties of the nurses," being of the opinion that nursing in towns is fairly satisfactory, though badly neglected in the country districts, resulting in the loss of many a valuable life.

The inferences to be drawn from the resolution are, first, that the Federatie objects to members of the Governor-General's family or staff being connected with the scheme, for at present the only two persons connected therewith not born in the country, or not having resided therein for five years, are Lady Gladstone and the honorary secretary, who is a member of the Governor-General's staff; and, secondly, that English-trained nurses are not wanted. The committee's reply to the Federatie has not been published, and, indeed, it is difficult to see what suitable reply could be made without administering a severe snub. It is quite certain that it will be impossible to comply with the wishes of the Federatie, for it is doubtful whether sufficient South African-trained nurses can be secured. Apart from this, it is certain that not more than 20 per cent. of locally trained nurses are able to speak the Dutch language. The last portion of the resolution is apparently due to a misunderstanding as to the meaning of "district nursing," the Federatie having taking it to mean nursing in the rural as opposed to the urban areas. The Federatie would doubtless place a knowledge of the Dutch language amongst the members of the nursing staff above a knowledge of professional work. It is to be sincerely hoped that this resolution will not deter Lady Gladstone from pressing on with the good work.

Proposed Hospital Legislation.

In addressing the guests of the Mayor of Cape Town at a luncheon given to the delegates to the Congress of Cape Municipalities the other day, Sir Frederic de Waal foreshadowed a provincial ordinance to reform the system under which grants by the State have hitherto been made to the public hospitals, to rectify other abuses that require attention, and particularly to direct public charity into a more reasonable channel. Considerable curiosity has been caused by this announcement; it is, however, generally welcomed, as for a number of years past it has been recognised by the profession and by hospital managers that the present system of financing and managing the hospitals of the province is most unsatisfactory.

Friction at the Johannesburg Hospital.

Mr. Rissik, the administrator of the Transvaal, has at length stepped in and and appointed a Commission to inquire into the friction which exists between the board of the Johannesburg Hospital and the honorary medical staff, and to report what action is required in order to end an unseemly squabble drawn out over a long period. The Commissioners consist of Dr. F. A. Arnold, the medical officer of health of the Transvaal, Mr. H. J. Hofmeyr, ex-mayor of Johannesburg, and Mr. M. Nathan. It would have been fairer had the medical member been drawn from some other part of South Africa, for presumably General Smuts consulted Dr. Arnold, who was then medical officer of health of the Transvaal, before he inaugurated the system which has been at the root of the present trouble. However, the appointment of any Commission at all is welcomed, and the medical staff have elected a committee consisting of Dr. G. A. E. Murray, Dr. H. H. Currie, Dr. Bauman, and Dr. S. Y. van Niekerk to present their case to the Commission. The findings of the Commission will be awaited with no little interest.

Ward v. Hertzog.

The first stage has been reached in the law courts in connexion with the libel action brought by Dr. A. B. Ward, President of the Orange Free State Medical and Pharmacy Council, against General Hertzog, the Minister of Justice. The defendant excepted to the plaintiff's declaration regarding certain alleged defamatory words uttered by him at two public meetings, one held at Smithfield and the other at Fauresmith, as bad in law and as disclosing no cause of action, and the grounds upon which he based this exception are: (1) that there was nothing in the words alleged that showed that they referred to the plaintiff; and (2) that the words themselves were not defamatory. The Judge President in the course of a long summing up disallowed the exception with costs, but leave to appeal was granted.

The late Sir Charles O'Grady Gubbins.

On every side regrets and sympathy are expressed for the death of Sir Charles O'Grady Gubbins, which took place recently at Newcastle, in Natal. The newspapers unite in paying a tribute to the personal affection inspired by the deceased Minister, whose death removes one of the most genial and attractive personalities from the arena of South African politics. Whilst he had a distinguished professional career in Natal, it is since the war as a politician that perhaps he is best known. He held for several years up to the date of Union the portfolio of Colonial Secretary of Natal and Minister in Charge of Public Health. It was largely due to his influence that Natal agreed to enter the Union. Since Union he has been a Member of the Cabinet, but without portfolio. Some weeks ago he became ill—a victim to internal cancer, but throughout his illness he maintained up to the last, in spite of his sufferings, his cheery Irish wit and humour. During the week before his death he was

visited by numbers of friends, most of whom in the heyday of his activities were associated with him in the politics of the country. Amongst these may be mentioned Senator Hitchins, the Hon. A. T. Oliff (late Colonial Treasurer of Natal), Colonel Greene (late Minister of Railways), Sir Frederick Moor (late Prime Minister), and the Hon. T. Watt, while only a few days before his death General Botha, the Prime Minister, journeyed specially to Newcastle to bid him farewell. His death was characterised by uncomplaining resignation, and his genial personality and restraining influence will be sorely missed in the Cabinet and in the Senate. When Sir Charles took to politics the medical profession gained in Natal prestige it never had before, and by his death at the present critical juncture it has lost the friend on whom it felt it could most surely rely in the Union Cabinet. The deceased graduated in medicine in Dublin in 1878.

The Defence Bill.

The long-expected South African Defence Bill has been published. Provision is made for practically universal training of Europeans and the complete assumption locally of responsibility for the defence of South Africa, a responsibility hitherto shared to a large extent with the Imperial Government.

Town Planning Bill.

A Bill to regulate the conditions under which townships may be established upon public or private property has been published. This Bill is apparently to be administered by the Minister of Lands. It is an absurd little Bill, and doubtless will never become law in its present form. It entirely overlooks the real objects which should be aimed at in such a measure—namely, the possibility of a good water-supply, easy means of drainage, suitability of soil, climate, &c. The Bill seems essentially a measure that should be introduced and given effect to by those in charge of the Local Government and health of the country, and in the absence of a properly constituted Central Health Department would far better have been left to the various Provincial Governments.

Conference of Government Health Officers.

A conference was held recently at Durban between the medical officer of health for the Union and the assistant medical officers stationed at Cape Town and Durban respectively. It is understood that the object of the conference was to endeavour to secure uniformity of port health administration at the different ports of the Union. Already the all-time port health officer at Cape Town has been replaced by a part-time practitioner engaged in an extensive private practice, and it will be interesting to note whether any further steps are to be taken to demolish safeguards that were considered of paramount importance prior to Union in preserving the health of the people.

Obituary.

I have to record with regret the deaths of two well-known practitioners—namely, Dr. A. J. Westby of Beaufort West, and Dr. W. A. Rutherford of Mafeking. The former graduated at Trinity College, Dublin, in 1878. He was a well-known athlete, and played cricket for the Gentlemen of Ireland and for Trinity as a student; and also for Ireland in international Rugby football. In 1894 he settled in Beaufort West, and was appointed district surgeon in 1898, which post, in conjunction with that of medical officer of health to the municipality, he held till his death. Dr. Rutherford had for many years held the post of medical officer to the Bechuanaland Protectorate Police. Both these gentlemen will be sadly missed. A movement is on foot to endow a bed at the New Somerset Hospital in memory of Dr. Westby, and as a token of the respect felt for him in the district where he had worked so long.

Dec. 1st, 1911.

NOTES FROM INDIA.

(FROM OUR OWN CORRESPONDENT.)

Durbar Delhi.

YOUR readers, I am sure, would like to have a few words about the place where Their Imperial Majesties are staying at this date. I have called it Durbar Delhi. It was some eight months ago a vast desert outside the old Mogul city of Delhi. To-day it is a medley of a World's Fair Exhibition, Earl's Court Exhibition, Epsom Downs on Derby Day, with glimpses of South Kensington thrown in. Miles of broad avenues have been well laid out with roads rendered absolutely dustless by thorough oiling, and going off on either sides of these avenues are broad spaces occupied by the camps of Indian chiefs and Government officials. Every chief has had a large *shamiana* erected as a reception camp, which has been variously decorated and gorgeously furnished. I observed that the grounds around the various camps were beautifully laid out in gardens of flowers and lawns, which were freshly green, thanks to the numerous irrigation channels which were specially made. Electric lights, Chinese lanterns, fairy lamps, torches, &c., all added to the beauty of the newly made city of tents. Driving through the avenues and roads one passed all sorts and conditions of people of all the nations under the sun, and these were either on foot or in motor-cars of various size and shapes, phaeton gharries, tum-tums, landaus, tongas, brakes, ekkas, and country carts, not to speak of State carriages attended by bodyguards. The place was extremely well policed, well traversed by telegraph posts, amply provided with post-offices, specially protected against fire by tall fire-alarm stations at various parts overlooking the whole area and connected by telephone to each other, each of which station had a Merryweather fire-engine, and the whole area was traversed by a light railway with numerous little stations. The outstanding feature in all this well-organised planning was the absence of any urinals, latrines, and lavatories for European and educated Indian ladies and gentlemen. The place was besieged by thousands of European ladies and gentlemen for the day's outing, and many of these had awkwardly to seek the private bathroom tents of officers and others which were convenient at the time. There were heaps of latrines of a crude description for the native servants of the various camps and for the troops, and incinerators of an old pattern giving out their constant smoke were near, and most improperly protected against the view of the travellers in the light railway. When one states that the area of the camping grounds was nearly as large as London, and that practically the whole of this area was taken up by camps amply separated from each other by lawns, the reader may draw for himself the picture of the whole. The amphitheatre deserves mention, as it is the place from which the King-Emperor was proclaimed. It is about three times the size of the Herculanean amphitheatre, and though they had been working at it for months the absence of European supervision showed itself in the fact that up to the time for the proclamation the Indian in charge had not arranged the decorations and carpeting. But the city of tents was a sight worth seeing, and the like of it will not be seen for centuries.

Dec. 13th, 1911.

Medical News.

UNIVERSITY OF CAMBRIDGE.—At examinations for medical and surgical degrees held in Michaelmas term, 1911, the following candidates were successful:—

FIRST EXAMINATION (*October, 1911*).

Part I., Chemistry.—K. Atkin, Jesus; C. N. Carter and H. W. Featherstone, Trinity; L. S. Gatherwood, Sidney Sussex; A. A. Gemmell, King's; E. A. Grylls, Caius; N. S. Hewitt, Sidney Sussex; H. C. Hopkinson, Emmanuel; B. E. Jerwood, Sidney Sussex; C. M. Jones, Downing; A. H. Pearce, Clare; R. M. Savur, non-collegiate; C. G. Schurr, Caius; C. H. Vernon, St. John's, and V. Wilkinson, Christ's.

Part II., Physics.—K. Atkin, Jesus; C. N. Carter, Trinity; H. B. Dodwell, Emmanuel; J. S. Eloff, Trinity Hall; H. W. Featherstone, Trinity; E. A. Fiddian, Emmanuel; H. G. Galbraith, Caius; L. S. Gatherwood, Sidney Sussex; A. A. Gemmell, King's; E. A. Grylls, J. H. Gulliland, and W. F. T. Haultain, Caius; H. D. Y. Herries, Trinity; N. S. Hewitt, Sidney Sussex; H. C. Hopkinson, Emmanuel; B. E. Jerwood, Sidney Sussex; C. M. Jones, Downing; F. Moor, Trinity; E. S. Orme, Queen's; A. H. Pearce and C. G. Schurr, Caius; F. N. Sidebotham and R. O. Sternberg, Clare; B. H. Swift, Caius; C. H. Vernon, St. John's; G. H. Ward, Caius; and V. Wilkinson, Christ's.

Part III., Elementary Biology.—S. L. Bhatia, Peterhouse; H. Cbell, St. John's; H. G. Galbraith, Caius; H. D. Y. Herries, Trinity; H. C. Hopkinson, Emmanuel; B. E. Jerwood, Sidney Sussex; C. G. Schurr, Caius; R. O. Sternberg, Clare; C. H. Vernon, St. John's; V. Wilkinson, Christ's; and A. G. P. Wills, Corpus Christi.

FIRST EXAMINATION (*December, 1911*).

Part I., Chemistry.—B. P. Ayre, Jesus; W. T. Beswick, Trinity

Hall; W. H. Blackburn, Christ's; C. V. Braimbridge, Downing; W. S. Brown, Caius; F. T. Burkitt, Christ's; G. E. Burton, Clare; A. E. Clark-Kennedy, Corpus Christi; L. Cunningham, Downing; I. de B. Daly and U. de B. Daly, Caius; J. C. Davies, Trinity; H. B. Dodwell, Emmanuel; C. G. Edwards, Caius; W. Fenwick and R. A. Fiddian, Emmanuel; H. G. Galbraith, J. H. Gulliland, and W. F. T. Haultain, Caius; A. D. Y. Herries, Trinity; S. C. Ho, St. John's; F. Moor, Trinity; E. S. Orme, Queen's; F. N. Sidebotham and R. O. Sternberg, Clare; B. H. Swift, Caius; G. B. Tait, King's; G. S. Taylor, Sidney Sussex; A. A. Thomas, Christ's; A. R. Walker, Emmanuel; G. H. Ward, Caius; W. T. Warwick, B.A., Emmanuel; H. G. R. Williams, King's; and R. A. Woodhouse and R. S. Woods, Downing.

Part II., Physics.—B. P. Ayre, Jesus; G. H. Bickley, Pembroke; J. F. J. Blanchard, Emmanuel; C. E. Bond, Caius; C. V. Braimbridge, Downing; W. S. Brown, Caius; F. T. Burkitt, Christ's; A. E. Clark-Kennedy, Corpus Christi; L. Cunningham, Downing; I. de B. Daly and U. de B. Daly, Caius; J. C. Davies, Trinity; S. R. E. Davies, Queens'; J. M. Downie, Christ's; W. L. Emtage, Queens'; W. Fenwick, Emmanuel; E. O. Goldsmith, Pembroke; R. W. Nichol, Caius; G. W. Pratt, St. John's; E. G. Snaith, Magdalene; G. B. Tait, King's; G. S. Taylor, Sidney Sussex; R. R. Traill, Trinity; A. C. Walker, Caius; A. R. Walker and W. T. Warwick, B.A., Emmanuel; R. C. P. Whitcombe and H. G. E. Williams, King's; and R. A. Woodhouse and R. S. Woods, Downing.

Part III., Elementary Biology.—C. G. Ainsworth, B.A., Downing; C. E. Bond and W. S. Brown, Caius; L. Cunningham, Downing; U. de B. Daly, Caius; H. W. Featherstone, Trinity; E. A. Fiddian, Emmanuel; L. S. Gathergood, Sidney Sussex; A. A. Gemmell, King's; W. F. T. Haultain, Caius; N. S. Hewitt, Sidney Sussex; R. W. Nichol, Caius; P. R. O'R. Phillips, Pembroke; F. N. Sidebotham, Clare; E. G. Snaith, Magdalene; B. H. Swift, Caius; R. R. Traill, Trinity; W. T. Warwick, B.A., Emmanuel; R. A. Woodhouse and R. S. Woods, Downing.

SECOND EXAMINATION (*October, 1911*).

Part II., Pharmacology and General Pathology.—W. G. Bigger, B.A., Queens'; H. J. Bower, B.A., Emmanuel; E. C. Bradford, B.A., Pembroke; J. Brewer, B.A., Emmanuel; I. M. Brown, B.A., Downing; E. H. P. Brunton, B.A., Trinity; L. B. Clarke, B.A., Emmanuel; G. M. Cowper, B.A., Trinity; J. L. Davies, Emmanuel; K. B. Dickson, B.A., Trinity; E. L. Dobson, B.A., King's; J. M. Evatt, B.A., Caius; W. D. Galloway, Clare; C. H. M. Gimlette, B.A., Caius; W. B. Gordon, B.A., Clare; C. H. Gow and N. Gray, B.A., Emmanuel; R. J. Hearn, B.A., Jesus; C. Helm, B.A., King's; A. M. Humphry, Trinity; B. L. Hutchence, B.A., Caius; R. W. P. Jackson, Clare; J. S. Kennedy, B.A., King's; S. D. Kilner, B.A., Emmanuel; H. H. Mathias, B.A., King's; J. B. Matthews, B.A., Clare; S. C. Miskin, Emmanuel; O. G. Morgan, B.A., Clare; W. New, B.A., Downing; A. V. O'Keeffe, Sidney Sussex; H. G. Oliver, B.A., R. A. Peters, B.A., and R. S. Scott, B.A., Caius; L. E. S. Sharp, Trinity; W. H. Shephard, B.A., Christ's; A. G. Shera, B.A., Emmanuel; L. R. Shore, B.A., St. John's; A. C. S. Smith, Trinity; W. S. Soden, B.A., St. John's; E. W. Todd, B.A., Trinity; R. L. M. Wallis, B.A., Downing; G. C. Wells-Cole, B.A., Caius; and F. A. Williamson, B.A., Queens'.

SECOND EXAMINATION (*December, 1911*).

Part I., Human Anatomy and Physiology.—J. C. Andrews, St. John's; G. L. Attwater, B.A., Pembroke; L. W. Batten, B.A., Sidney Sussex; G. A. G. Bonser, B.A., St. John's; J. C. Bramwell, Trinity; H. F. Brice-Smith, B.A., St. John's; W. E. H. Bull, B.A., Caius; H. R. Buttery, B.A., Christ's; A. B. Buxton, Trinity; M. Chadwick, B.A., St. John's; G. F. Clifton, B.A., Downing; G. R. E. Colquhoun, Trinity; A. C. M. Coxon, B.A., Magdalene; E. C. Cunnington, B.A., Corpus Christi; E. D. D. Davies, B.A., Christ's; A. N. Drury, Caius; H. Dunkerley, B.A., Downing; H. S. Evans, Trinity; E. Forrester-Paton and L. S. Fry, B.A., King's; H. A. C. Goodwin, B.A., Jesus; E. H. H. Granger, Clare; C. Grantham-Hill, Caius; W. T. Hare, B.A., Christ's; J. B. Hunter, St. John's; J. H. Jordan, B.A., Emmanuel; H. D. Lander, B.A., Caius; F. C. Lapage, B.A., King's; H. W. Leatham, Trinity; A. H. Little, Corpus Christi; H. D. McCall, B.A., Christ's; E. C. Malden, Caius; R. A. Mansell, Emmanuel; C. G. T. Mosse, Caius; D. F. A. Neilson and W. D. Newcomb, Trinity; W. Oats, B.A., Caius; H. B. Padwick, Emmanuel; H. E. Pollock, B.A., Trinity; S. R. Prall, Emmanuel; W. B. Purchase, B.A., Sidney Sussex; G. D. Read, B.A., St. John's; W. H. C. Romanis, Trinity; T. H. Somervell, Caius; G. E. Spicer, Trinity; and H. N. Stafford, A. R. S. Warden, and E. Watson-Williams, Caius.

THIRD EXAMINATION (*December, 1911*).

Part I., Pathology and Pharmacology.—M. Avent, B.A., Caius; H. M. McC. Coombs, B.A., Emmanuel; R. Gamlin, M.A., King's; H. K. Griffith, B.A., Trinity; A. N. Hodges, B.A., Queens'; R. M. Miller, M.A., Clare; C. G. H. Moore, B.A., Caius; R. S. Morshead, B.A., Trinity; G. M. Parker, B.A., Emmanuel; C. H. G. Philp, B.A., St. John's; and V. T. P. Webster, B.A., Emmanuel.

Part II., Surgery, Midwifery, and Medicine.—The following have now satisfied the examiners in all three sections:—L. A. P. Anderson, B.A., and J. H. Baldwin, M.A., Emmanuel; A. M. Bodkin, B.A., King's; W. J. Carr, B.A., Trinity; F. G. Chandler, B.A., Jesus; H. M. McC. Coombs, B.A., Emmanuel; W. D. Copiestone, M.A., Jesus; M. Donaldson, B.A., Trinity; C. A. Dottridge, B.A., Clare; E. A. Dyson, B.A., Jesus; A. G. Evans, B.A., Trinity; G. V. Fiddian, B.A., Downing; A. W. Gaye, B.A., and A. H. Gosse, M.A., Caius; H. K. Griffith, B.A., Trinity; A. E. Herman, B.A., King's; A. C. Jepson, B.A., Pembroke; G. G. Johnstone, B.A., King's; N. F. Lock, B.A., Caius; A. J. McNair, B.A., Emmanuel; J. C. Marklove, B.A., and R. A. Ramsay, B.A., Caius; W. D. Ross, B.A., King's; H. B. G. Russell, B.A., Sidney Sussex; W. A. Russell, B.A., Emmanuel; A. W. Stott, M.A., Trinity; and J. F. Taylor, B.A., H. Selwyn.

UNIVERSITY OF LONDON.—At examinations held in December, 1911, the following candidates were successful:—

M.D. EXAMINATION.

Branch I., Medicine.—Charles Anthony Basker, B.S., Guy's Hospital; Muriel Constance Bywaters, B.S., London (Royal Free Hospital) School of Medicine for Women; James Alfred Patrick Cullen, London Hospital; David Morgan Davies, B.S., Charing Cross Hospital; Ivor Jones Davies, B.S., St. Bartholomew's Hospital and University College, Cardiff; Trevor Berwyn Davies, B.S., University College Hospital; Gopal Vinayak Deshmukh, B.S., London Hospital; Edward Cecil Bresrey Ibotson, B.S., and William Johnson, B.S., Guy's Hospital; Charlotte Alice King, B.S., London (Royal Free Hospital) School of Medicine for Women; Norman Claudius Lake, B.S., B.Sc. (University medal), Charing Cross Hospital; Elias Leopold Woolf Mandel, B.S., Guy's Hospital; and Horace Richard Wilson, B.S., University of Liverpool.

Branch II., Pathology.—Arthur Davies, B.S., Westminster Hospital and London School of Clinical Medicine; and Emily Helen Morris, B.S., London (Royal Free Hospital) School of Medicine for Women.

Branch IV., Midwifery and Diseases of Women.—James Bruce-Bays, M.D., B.S., St. Mary's Hospital; Gladys Margaret Campbell Dunbar, B.S., and Mabel Emily Gates, B.S., London (Royal Free Hospital) School of Medicine for Women; Herbert Cubitt Lucey, B.S., and William Henry Miller, B.S. (University medal), Guy's Hospital; Florence Muriel Morris, B.S., and Helen Irene Moss, B.S., London (Royal Free Hospital) School of Medicine for Women; and Alfred Geddes Tresidder, B.S., London Hospital.

Branch V., State Medicine.—Tom Shadick Higgins, B.S., B.Sc., University College Hospital.

Branch VI., Tropical Medicine.—Hugh Stannus Stannus (University medal), St. Thomas's Hospital and London School of Tropical Medicine.

M.S. EXAMINATION.

Branch I., Surgery.—Joseph Ebenezer Adams, St. Thomas's Hospital; Ernest William Charles Bradfield, St. Mary's and St. Bartholomew's Hospitals; Edward Kenneth Martin, University College Hospital; Harry Platt, Victoria University of Manchester; and David Ranken, University of Durham and St. Bartholomew's Hospital.

FIRST EXAMINATION FOR MEDICAL DEGREES.

Pass List—John Arnold Molony Alcock, Guy's Hospital; John Struan Alexander, University College; Hannah Katherine Alton, King's College; Colin Reinhardt Andrew, St. Paul's School; Keith Edward Attenborough, St. Mary's Hospital; Robert Townsly Bailey, King's College; Geoffrey Thomas Baker, Middlesex Hospital; Charles Douglas Banes, Hartley University College; Walter Ralph Barrett, The Leys, Cambridge, and London Hospital; Edward Vincent Beaumont, St. Mary's Hospital; Joseph Warwick Bigger, Trinity College, Dublin; John Archibald Binning, University College; Constance Marie Briggs, University Tutorial College and Girton College; Harold George Broadbridge, London Hospital; Louis Abel Celestin, Royal College, Mauritius, and University Tutorial College; Julien David Constantin, St. Bartholomew's Hospital; Ronald Campbell Cooke, St. Thomas's Hospital; Dermot Dominic Randal Dale, St. Bartholomew's Hospital; Raghunath Ganesh Dani, University College; John Milton Davey, University of Leeds; *†Leonard Snowden Debenham, St. Paul's School and Guy's Hospital; Allen Roy Dingley, St. Bartholomew's Hospital; Charles Yarrow Eccles, St. Thomas's Hospital; *Stanley Harold Edgar, University College, Nottingham; Edwin Francis Fernando, University of Edinburgh and University College; Thomas Richard William Francis Figg-Hoblyn, Guy's Hospital; William Fletcher-Barrett, Birkbeck College; Marjorie Ellen Franklin, London (Royal Free Hospital) School of Medicine for Women; William Lawson Mabson Gabriel, University of Leeds; Aziz Girgis, London Hospital; Lorel Goodfellow, London (Royal Free Hospital) School of Medicine for Women; Hugh Morgan Gray and John William Hawksley Grice, Guy's Hospital; †¶Arnold Guy Harsant, St. Paul's School and London Hospital; Thomas Lowthian Heath, Guy's Hospital; Norman Hammond Hill, University of Leeds and St. Bartholomew's Hospital; Harry Mainwaring Holt, University of Leeds; George Philip Buckingham Huddy, London Hospital; David Bruce Stewart Jones, Charing Cross Hospital; Francis Reginald Law, University of Leeds; Herman Lewis, London Hospital; Katharine Lloyd, London (Royal Free Hospital) School of Medicine for Women; Douglas Loughlin and Sydney Alan Stormer Malkin, University College; Francis Keene Marriott, London Hospital; Arthur Harry Morris, University of Bristol; John Kerr Muir, Middlesex Hospital; John James Murphy, Sinnethamby Muttiah, and David Forsyth Parton, London Hospital; Eleanor Joyce Partridge, London (Royal Free Hospital) School of Medicine for Women; Robert Louis Portway, Guy's Hospital; Christopher George Schurr, Gonville and Caius College, Cambridge; Elisabeth Henrietta Schwab, Bedford College and London (Royal Free Hospital) School of Medicine for Women; Nirendra Mohan Sen-Gupta, London Hospital; Charles Ernest Alan Shepherd, King's College; Harold Gane Stormer, St. Thomas's Hospital; Raymond Stowers, University College; *Edward Cowper Tamplin, Pharmaceutical Society's School and St. Thomas's Hospital; Frederick Alfred Unwin, Birkbeck and King's Colleges; William John Vance and Samuel Vidot, Guy's Hospital; Josephine Leigh Hunt Wallace, University College; John Woollaston Wayte, St. Thomas's Hospital; William Ronald White-Cooper, St. Bartholomew's Hospital; and †George Cuthbert Nelson Younger, Middlesex Hospital.

* Awarded a mark of distinction in Inorganic Chemistry.

† Awarded a mark of distinction in Physics.

¶ Awarded a mark of distinction in General Biology.

N.B.—This list, published for the convenience of candidates, is issued subject to its approval by the Senate.

SOCIETY OF APOTHECARIES OF LONDON.—At examinations held in December, 1911, the following candidates passed in the subjects indicated :—

Surgery.—R. E. Clarke (Sections I. and II.), King's College Hospital; F. J. Montgomery (Sections I. and II.), Middlesex Hospital; and J. E. Taylor (Sections I. and II.), Leeds.

Medicine.—R. E. Clarke (Sections I. and II.) and D. E. S. Davies (Sections I. and II.), King's College Hospital; L. K. Edmeades (Section II.), Guy's Hospital; W. G. Fraser (Sections I. and II.), McGill; J. G. Lewis (Section I.), Newcastle; G. Meyer (Section I.), Graz; P. J. Montgomery (Sections I. and II.), Middlesex Hospital; F. C. Shone (Section II.), University College Hospital; and A. J. Tozer (Sections I. and II.), St. Mary Hospital.

Forensic Medicine.—R. E. Clarke, King's College Hospital; H. Rimington, St. Bartholomew's Hospital; H. Robinson, Manchester; and H. G. Steel and A. J. Tozer, St. Mary's Hospital.

Midwifery.—E. M. Brand, Royal Free Hospital; R. E. Clarke, King's College Hospital; and H. Robinson, Manchester.

The Diploma of the Society was granted to the following candidates, entitling them to practise medicine, surgery, and midwifery:—R. E. Clarke, D. E. S. Davies, and P. J. Montgomery.

LONDON SCHOOL OF TROPICAL MEDICINE.—At the examination at the end of the thirty-seventh session (October–December, 1911) the following students were successful :—

*Captain W. D. Wright, I.M.S.; *C. F. Simpson; B. A. Percival (Colonial Service); W. Turner; E. J. Quirk (Colonial Service); J. W. Tomb; J. W. Thomson (Colonial Service); R. Semple (Colonial Service); M. Salih; L. Sammy; P. L. Craig; Miss L. E. Watney; R. Willan (Colonial Service); W. B. A. Moore (Colonial Service); E. J. Powell (Colonial Service); M. Graves (Colonial Service); W. Browne (Colonial Service); S. Goodbrand (Colonial Service); W. A. Nicholson (Colonial Service); H. Ostrom; Miss M. Pantin; R. Mugliston (Colonial Service); D. C. Robertson; G. Girgis El-daba; J. G. Morgan (Colonial Service); E. Ward (Colonial Service); C. H. Crooks; and N. Mahrus.

* With distinction.

VICTORIA UNIVERSITY OF MANCHESTER.—At examinations held in December, 1911, the following satisfied the examiners :—

FINAL M.B. AND CH.B. EXAMINATION.

K. D. Bean, L. W. Howlett, W. H. Laslett, S. E. McClatchey, Newton Matthews, H. G. Peake, James Walker, and William Warburton.

Obstetrics.—Frank Oppenheimer and R. P. Stewart.

Medicine.—Frank Oppenheimer.

Forensic Medicine and Toxicology.—F. S. Bedale, C. L. Graham, and T. H. Oliver.

THIRD M.B. EXAMINATION.

General Pathology and Morbid Anatomy.—Allan Barrett, *F. A. Bearn, J. G. Bennett, E. S. Brentnall, C. H. Crawshaw, H. N. Crossley, H. F. Hutchinson, Harold Kempsey, *T. P. Kilner, Eugene Leahy, C. G. Lees, F. L. Newton, T. P. Robertson, Harold Sheldon, *A. V. Stocks, Ernest Talbot, Cornelius Thompson, H. W. F. Williams, and G. W. Wood.

Pharmacology and Therapeutics and Hygiene.—F. C. Bentz, W. R. Blore, F. S. Charnock, H. C. Duffy, Harold Kempsey, Roderic McGill, Gladys H. Ramsden, H. A. Sandiford, F. K. Tomlinson, and C. H. Whittall.

Pharmacology and Therapeutics.—H. S. Gerrard.

SECOND M.B. AND CH.B. EXAMINATION.

‡Lily Allan, J. C. P. Bayley, Basil Browning, Frank Chadwick, J. W Craw, A. T. Gibb, ‡D. T. Harris, †J. R. Jagger, O. M. de Jong, J. D. Kenyon, E. A. Linell, †Clara A. Lomas, Kate K. May, Kamil Maximus, A. S. Paterson, W. A. Rogerson, J. R. B. Russell, E. H. Walker, and Henry Wilson.

FINAL B.D.S. EXAMINATION.

T. A. B. Corless.

DIPLOMA IN DENTISTRY (FINAL EXAMINATION).

Harry Lyth, L. W. Ward, and R. S. Ward.

Dental Prosthetics and Operative Dentistry.—Robert Ramsbottom and D. H. Sutton.

THIRD B.D.S. EXAMINATION.

C. F. Scott.

DIPLOMA IN DENTISTRY (THIRD EXAMINATION).

H. V. Brown, T. C. Cregan, H. O. Hatton, E. R. Lamb, Kate Latarche, D. J. O'Brien, Eric Renshaw, E. B. Ryley, Harold Walker, and Ernest Ward.

* Distinction in Pathology.
† Distinction in Anatomy.
‡ Distinction in Physiology.

UNIVERSITY OF LEEDS.—At examinations held recently the following candidates were successful :—

M.B. AND CH.B., SECOND EXAMINATION.

Part I., Anatomy and Physiology.—W. D. Anderton, S. N. Cohen, J. J. Digges La Touche, H. Foxton, F. King, W. H. Lonen, H. W. Robinson, H. Sochet, J. Wilkinson, and C. Wilson.

FINAL EXAMINATION.

Part I.—L. H. Butler, L. Dunbar, F. H. Kitson, K. Menon, J. J. Pickles, H. P. Shackleton, H. Sinson, and J. Wright.

DIPLOMA IN DENTAL SURGERY.

First Professional Examination.—J. E. Gill.

DIPLOMA IN PUBLIC HEALTH.

Part I.—G. O. Chambers and H. F. Horne.
Part II.—C. C. Pickles.

The degrees of Bachelor of Medicine and Bachelor of Surgery were conferred upon the following candidates :—

A. L. Bastable, *H. Caplan, J. B. T. Keswick, C. J. H. Little, G. E. Macvie, F. W. Nunneley, *W. Robinson, *J. B. Sinson, *J. P. Walker, and F. Wigglesworth.

* Second-class honours.

UNIVERSITY OF EDINBURGH.—At a graduation ceremonial held in the M'Ewan Hall on Dec. 20th, 1911, the following degrees were conferred :—

Doctor of Medicine.—Angus Graham Macdonald, James Forbes Mackay, and Hubert Andrew David Moore.

Bachelor of Medicine and Master in Surgery.—Edward Francis Coghlan.

Bachelor of Medicine and Bachelor of Surgery.—Joseph Reginald Aeria, John Edwin Allan, Albert Alexander Atkinson, Wallace Rutherford Bayne, Percy William Page Bedford, Delvine Bell, Robert Bertram Blair, Arthur Bloom, Niels Höegh Brönnum, Cecil Burnham, Robert Carlyle Carlyle, Alexander Bruce Cheves, Anna Chose, Guillaume Jacobus Cillie, Jacob David Malan Claassens, Disney Hubert Dusch Cran, Reginald Wynyard Davies, Robert Cecil Dickson, Alexander Erskine Drynan, William Ernest FitzGerald, Joseph Geoghegan, John Marchbank Gillespie, Charles William Graham, Gilbert Malise Graham, Malcolm Claud Russell Grahame, John Victor Livingstone Grant, James Gray, John William Gray, George Harrison, Arthur Christopher Heard, Kenneth Goodall Hearne, John Hewat, Janette Theresa Hill, Hugh James Hopps, Abraham Jassinowsky, Cicely Mary Kerby, Stefanus Gottfried Kriegler, Archibald Langwill, George Leggat Leggat, Thomas Lindsay, Patrick M'Cool, William Small M'Laren, Archibald Browning Mitchell, Michael Joseph Paris, Randolph James Elliot Paterson, Bindeshwari Prasad, Maxwell Ramsay, Frederick William Rayment, Spence Daer Reid, Mossie Rougvie, Robert Glen Shaw, Leslie Henderson Skene, Sahib Singh Sokhey, Jacobus Johannes Stander, Henry Hay Stewart, Lawrence Ramsay Thomson, Frederick Livingstone Tulloch, Peter Vieyra, Charles Derwent Walker, Chung Ching Wang, Harry Whitaker, and Robert Burton Meikle Yates.

Diploma in Tropical Medicine and Hygiene.—John Alexander and Charles Edward Southon.

The Milner-Fothergill gold medal in Therapeutics has been awarded to Dr. John Tait.

Dr. George Foy has been elected an honorary member of the State Medical Association of Georgia, U.S.A.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced :—Dr. B. Eads, formerly professor of anatomy and physiology in the Rush Medical College, Chicago.—Dr. H. C. Dalton, formerly professor of surgery in the Marion Sims College of Medicine, St. Louis.—Dr. N. R. Coleman, formerly professor of medicine in Ohio Medical College, Columbus.—Dr. Adam Szulislawski, honorary professor of ophthalmology in Lemberg, aged 46.—Dr. Karl Hörmann, *privat-docent* of gynæcology and *oberarzt* of the University Gynæcological Clinic in Munich.—Dr. P. Topinard, formerly professor in the Paris School of Anthropology.—Dr. E. Bornet, member of the Academy of Sciences, Paris.

UNIVERSITY OF LONDON: UNIVERSITY COLLEGE.—Work in the Faculty of Medical Sciences at University College will be resumed on Tuesday, Jan. 9th. The Provost will be in attendance on Monday, Jan. 8th, from 10 to 1 for the purpose of seeing students who desire to be enrolled. A course of Page-May Memorial Lectures will be delivered at University College by Dr. Henry Head, F.R.S., on Fridays at 5 P.M., beginning on Jan. 26th, and in connexion with the Francis Galton Laboratory for National Eugenics two lectures on Sir Francis Galton will be delivered by Professor Karl Pearson on Tuesdays, Jan. 30th and Feb. 6th, at 8.30 P.M., to be followed on subsequent Tuesdays by a course of six lectures on Some Problems of Eugenics. Full particulars of the above courses may be obtained on application to the secretary of University College.

CENTRAL MIDWIVES BOARD.—A meeting of the Central Midwives Board was held at Caxton House, Westminster, on Dec. 21st last, Sir Francis H. Champneys being in the chair. A letter was considered from the Local Government Board forwarding copies of extracts from the annual reports for the years 1909 and 1910 of the medical officer of health for the Wantage rural district calling attention to the inadequate supply of midwives in the district and the cause thereof. The Board directed that the Local Government Board be thanked for its letter. A letter was considered from

Mr. C. E. Paget, medical officer of health of Northamptonshire, reporting, in accordance with the provisions of Rule F.2, that he had advised a district nurse, who practises midwifery, to abstain from practice as a midwife for a period of 14 days after complete disinfection of herself, her clothing, and her appliances by reason of her having been in contact with a case of scarlet fever for a period of 18 days. Letters were also considered from Dr. W. J. Howarth, medical officer of health of Kent, reporting the suspension of one midwife for 11 days, and of another for 12 days, in similar circumstances. The Board directed that Mr. Paget and Dr. Howarth be thanked for their letters, and that they be informed that the Board approves of their action in the circumstances stated. A letter was considered from Dr. H. Handford, medical officer of health of Nottinghamshire, reporting the suspension of a midwife for 14 days. The Board directed that Dr. Handford be thanked for his letter, and that he be informed that the Board approves of his action in the circumstances stated. The secretary was further directed to communicate with the local supervising authority, pointing out that the matter appeared to disclose a *primâ facie* case of negligence and misconduct against the midwife, and asking the authority whether it so found, and to furnish evidence in support of the statements contained in the letter. A letter was considered from an approved midwife at Norwich requesting the Board to reconsider its decision not to recognise a local medical practitioner as a teacher because of the difficulty she experiences in obtaining theoretical instruction for her pupils from the recognised teachers of the Norwich Maternity Charity. The Board directed that the applicant be referred to the medical staff of the Norwich Maternity Charity, who have been recognised by the Board as teachers for the purpose of giving the necessary theoretical instruction to candidates proposing to enter for the Board's examinations from Norwich and the surrounding district. A letter was considered from the medical officer of health of Birkenhead calling attention to the difficulty of successfully prosecuting uncertified women practising as midwives owing to the difficulty of proving that the practice is for "gain" as required by Section 1 (2) of the Midwives Act, 1902. The Board directed that the medical officer of health of Birkenhead be thanked for his letter, and that a copy thereof be forwarded to the Privy Council. The secretary reported that a false and fraudulent certificate of birth had been tendered to him by a woman desirous of becoming a candidate for the examination of Dec. 15th. The Board directed that the papers be placed in the hands of the Director of Public Prosecutions, and that he be requested to take such action in the matter as he may think fit.

UNIVERSITY OF LIVERPOOL.—During the past session the students entering in the faculty of medicine have been divided as follows: 24 have entered for the degree of the University, 3 for degrees in other universities, 2 for the diploma of the London Conjoint Board, and 6 for those of other examining bodies. The entries of the last six years show the total number of students at present in the faculty as the largest reached—viz., 148, classified as follows:—First M.B., 27; Second M.B., 28; Final M.B., 48; First Conjoint, 2; Second Conjoint, 10; Final Conjoint, 8; other degrees and qualifications, 25; making a total of 148. Students other than undergraduates are as follows:—Research, 41; School of Hygiene, 31; Tropical School, 49; operative surgery, 3; dental, 64; making a total of 188. The total of all classes is 336. The examination results have been as follows: First M.B., Part I., 34 presented, 15 referred; Part II., 28 presented, 5 referred. Second M.B., Part A, 18 presented, 4 referred; Part B, 10 presented, 3 referred. Final M.B., Part I., 24 presented, 5 referred; Part II., 27 presented, 5 referred; Part III., 26 presented, 12 referred. Four candidates submitted theses for the M.D., three successfully. Twenty-three candidates presented themselves for the Diploma in Public Health, of whom 9 were referred. Thirty-four candidates presented themselves for the Diploma in Tropical Medicine, of whom 5 were referred. The course of instruction in systematic surgery has for the first time been divided into general and regional. The medical faculty has devoted considerable attention to the proposal to institute degrees in hygiene. A diploma in ophthalmic surgery has been instituted for graduates, and ordinances and regulations relative to it have been approved by the Council and Senate.

BOOKS, ETC., RECEIVED.

ALLEN, GEORGE, AND COMPANY, LIMITED, Ruskin House, 44 & 45, Rathbone-place, London, W.

Psychology of the Religious Life. By George Malcolm Stratton, Sometime Professor of Experimental Psychology in the Johns Hopkins University; Professor of Psychology in the University of California. Price 10s. 6d. net.

The Life of John Ruskin. By E. T. Cook. In Two Volumes. Vol. I., 1819-1860. With Portraits. Vol. II., 1860-1900; with Portraits. Price 21s. net (two volumes).

BAILLIÈRE, TINDALL, AND COX, London.

A Dictionary of Medical Diagnosis. A Treatise on the Signs and Symptoms Observed in Diseased Conditions. For the Use of Medical Practitioners and Students. By Henry Lawrence McKisack, M.D., M.R.C.P. Lond., Physician to the Royal Victoria Hospital, Belfast. Second edition. Price 10s. 6d. net.

Gynæcological Nursing. By Arthur E. Giles, M.D., B.Sc., F.R.C.S., M.R.C.P., Surgeon to the Chelsea Hospital for Women, Gynæcologist to the Prince of Wales's General Hospital, Tottenham. Price 3s. 6d. net.

Aids to Ophthalmology. By N. Bishop Harman, M.A., M.B. Cantab., F.R.C.S. Eng., Lecturer in Ophthalmology, West London Post-Graduate College. Fifth edition. Price, paper, 2s.; cloth, 2s. 6d. net.

Aids to Histology. By Alexander Goodall, M.D., F.R.C.P. Edin., Lecturer on Physiology, School of Medicine of the Royal Colleges, Examiner in Physiology to the Royal College of Physicians, Edinburgh. Price, paper, 2s.; cloth, 2s. 6d. net.

The Tightening of Loose Teeth. Some Technical Innovations. By Surgeon-Dentist Witkowski (Berlin). Translated from the first German edition by Edgar Neumann, M.D., and William M. Gabriel, M.R.C.S., L.D.S. Eng. Price 4s. net.

BLACK, A. AND C., 4, 5, and 6, Soho-square, London, W.

Who's Who. 1912. Price 10s. net.

Who's Who Year-book. 1912-1913. Price 1s. net.

The Writers' and Artists' Year-book. 1912. A Directory for Writers, Artists, and Photographers. Price 1s. net.

The Englishwoman's Year-Book and Directory, 1912. Edited by G. E. Mitton. Thirty-first Year of Issue. Price 2s. 6d. net.

CHATTO AND WINDUS, 111, St. Martin's-lane, London, W.C.

Herbert Fry's Royal Guide to the London Charities. Edited by John Lane. 1912. Price 1s. 6d.

CHURCHILL, J. AND A., London.

Essentials of Surface Anatomy. By Charles R. Whittaker, F.R.C.S.Ed., F.R.S.E., Senior Demonstrator of Anatomy, Surgeons' Hall, Edinburgh. Second edition, revised and enlarged. Price 3s. 6d. net.

Cocoa and Chocolate: Their Chemistry and Manufacture. By R. Whymper. Price 15s. net.

GRIFFIN, CHARLES, AND COMPANY, LIMITED, Exeter-street, Strand, London, W.C.

The Year-book of the Scientific and Learned Societies of Great Britain and Ireland. A Record of the Work done in Science, Literature, and Art during the Session 1910-1911 by numerous Societies and Government Institutions. Compiled from Official Sources. Twenty-eighth Annual Issue. 1911. Price 7s. 6d.

LIPPINCOTT (J. B.) COMPANY, Philadelphia and London.

A Handbook of Medical Diagnosis. For the Use of Practitioners and Students. By J. C. Wilson, A.M., M.D., Professor of the Practice of Medicine and Clinical Medicine in the Jefferson Medical College and Physician to its Hospital. Price 25s. net.

Clinical Diagnosis. A Text-book of Clinical Microscopy and Clinical Chemistry for Medical Students, Laboratory Workers, and Practitioners of Medicine. By Charles Phillips Emerson, A.B., M.D., late Resident Physician, the Johns Hopkins Hospital, and Associate in Medicine, the John Hopkins University; Professor of Medicine, Indiana University School of Medicine. Third edition. Price 21s. net.

The Parasitic Amœbæ of Man. By Charles F. Craig, M.D., Captain, Medical Corps, United States Army. From the Bacteriological Laboratory of the Army Medical School, Washington, D.C., and the Rockefeller Institute for Medical Research, New York City. Published with the Authority of the Surgeon-General of the United States Army. Price 10s. 6d. net.

International Clinics. Edited by Henry W. Cattell, A.M., M.D., Philadelphia, U.S.A., with Collaboration. Volume III. Twenty first Series. 1911. Price not stated.

SAUNDERS (W. B.) COMPANY, London and Philadelphia.

Collected Papers by the Staff of St. Mary's Hospital Mayo Clinic, Rochester, Minnesota. 1910. Price 24s. net.

Applied Anatomy and Oral Surgery. For Dental Students. By Robert H. Ivy, M.D., D.D.S., Assistant Oral Surgeon at the Philadelphia General Hospital; Assistant Surgeon, Out-patient Department, University Hospital, Philadelphia. Price 6s. 6d. net.

The Pocket Medical Dictionary. Edited by W. A. Newman Dorland, A.M., M.D., Member of Committee on Nomenclature and Classification of Diseases, of the American Medical Association; Professor of Obstetrics, Loyola University, Chicago. Seventh edition, revised and enlarged. Price, flexible leather, 5s. net; with thumb index, 6s. net.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

ASHLEY, MARTIN, M.B. Lond., L.R.C.P. Lond., M.R.C.S., D.P.H. Cantab., has been appointed *pro tem.* Medical Officer of Health by the Chipping Sodbury (Gloucestershire) Rural District Council.

BARCLAY, A. E., B.C. Cantab., has been reappointed Medical Officer for the Radiography and Electricity Department at the Manchester Royal Infirmary.

COOGAN, T., M.B., Ch.B. Vict., has been reappointed Fifth Anæsthetist at the Manchester Royal Infirmary.

DEANS, R. H., M.B., Ch.B. Glasg., has been appointed Second Assistant Medical Officer at Govan District Asylum, Hawkhead, near Paisley.

LOVEDAY, G. F., M.B., B.C. Cantab., has been reappointed Director of the Clinical Laboratory at the Manchester Royal Infirmary.

LUSK, S. F., M.B., M.S. Edin., has been appointed Dispensary Medical Officer of Loughbrickland, County Down.

WEBB, FRANK, L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer of Health of Leigh, Lancs.

WILSON, S. R., M.B., B.S. Lond., F.R.C.S. Edin., has been reappointed Second Anæsthetist at the Manchester Royal Infirmary.

WYNNE, F. E., M.B., B.Ch. Dub., has been appointed Medical Officer of Health of Wigan.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BETHNAL GREEN INFIRMARY, Cambridge Heath, E.—Assistant Medical Officer. Salary at rate of £100 per annum, with apartments, board, and washing.

BIRKENHEAD BOROUGH HOSPITAL.—Junior Resident House Surgeon. Salary £80 per annum, with board and washing.

BRIGHTON, ROYAL SUSSEX COUNTY HOSPITAL.—Assistant House Surgeon, unmarried. Salary £80 per annum, with apartments, board, and laundry.

BRISTOL ROYAL INFIRMARY.—Dental House Surgeon. Salary £100 per annum, with apartments, board, and laundry.

CAMBRIDGE, ADDENBROOKE'S HOSPITAL.—Second House Surgeon. Salary £80 per annum, with board, residence, and laundry.

CITY OF LONDON LYING-IN HOSPITAL, City-road, E.C.—Resident Medical Officer. Salary at rate of £50 per annum, with board, residence, and washing.

CROYDON MENTAL HOSPITAL, Upper Warlingham, Surrey.—Pathologist and Third Assistant Medical Officer. Salary £200 per annum, with quarters, board, and laundry.

DONCASTER, ROYAL INFIRMARY AND DISPENSARY.—Assistant House Surgeon. Salary £80 per annum, with board, residence, and laundry.

GENERAL POST OFFICE.—Assistant to Medical Officers at Headquarters. Salary £180 per annum. Also Female Assistant Medical Officer at Headquarters. Salary £180 per annum.

GERMAN HOSPITAL, Dalston.—Honorary Assistant Physician.

GUILDFORD, ROYAL SURREY COUNTY HOSPITAL.—Assistant House Surgeon. Salary £75 per annum, with board, residence, and laundry.

HELLINGLY, EAST SUSSEX COUNTY ASYLUM.—Third Assistant Medical Officer, unmarried. Salary £160 per annum, with board, apartments, washing, and attendance.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—House Physician for six months. Salary 30 guineas.

HULL ROYAL INFIRMARY.—Senior Assistant House Surgeon. Salary £100 per annum, with board and lodging. Also Assistant House Surgeon. Salary at rate of £80 per annum, with board and lodging.

ITALIAN HOSPITAL, Queen-square, London, W.C.—Honorary Surgeon. Also Honorary Assistant Surgeon.

LARBERT, STIRLING DISTRICT ASYLUM.—Second Assistant Medical Officer. Salary £130 per annum, with board, &c.

LEAMINGTON SPA, WARNEFORD, LEAMINGTON, AND SOUTH WARWICKSHIRE GENERAL HOSPITAL.—Junior Resident Medical Officer. Salary £85 per annum, with residence, board, and laundry.

LEICESTER INFIRMARY.—Assistant House Physician for six months. Salary at rate of £80 per annum, with board, apartments, and washing.

LINCOLN COUNTY HOSPITAL.—Junior House Surgeon, unmarried, for six months. Salary at rate of £100 per annum, with board, residence, and washing.

LONDON FEVER HOSPITAL, Liverpool-road, N.—Assistant Resident Medical Officer. Salary £150 per annum, with residence and board.

LONDON TEMPERANCE HOSPITAL.—Assistant House Surgeon for six months. Salary at rate of £105 per annum. Also Medical Registrar. Salary at rate of 40 guineas per annum.

MANCHESTER, ANCOATS HOSPITAL.—Assistant House Surgeon. Salary £70 per annum, with board, residence, &c.

MANCHESTER, MONSALL FEVER HOSPITAL.—Third Medical Assistant. Salary £100 per annum, with board, lodging, and washing.

MANCHESTER ROYAL INFIRMARY.—Assistant Surgical Officer in Aural Department. Salary £52 10s. per annum.

METROPOLITAN HOSPITAL, Kingsland-road, N.E.—House Surgeon and Assistant House Surgeon for six months. Salary of former at rate of £80 per annum and of latter at rate of £40 per annum, with board and washing.

MIDDLESEX HOSPITAL, W.—Assistant Medical Officer to the Electrical Department. Salary £50 per annum.

MILLER GENERAL HOSPITAL FOR SOUTH-EAST LONDON, Greenwich-road, S.E.—Junior House Surgeon. Salary at rate of £85 per annum, with board, attendance, and laundry.

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Hampstead and Northwood.—House Physician at Northwood. Salary £75 per annum, with board, residence, and washing.

NEWCASTLE-ON-TYNE HOSPITAL FOR SICK CHILDREN.—Honorary Assistant Surgeon.

NORTHAMPTON GENERAL HOSPITAL.—House Surgeon. Salary £90 per annum, with apartments, board, washing, and attendance.

OXFORD COUNTY ASYLUM, Littlemore, near Oxford.—Junior Assistant Medical Officer, unmarried. Salary £150 per annum, with quarters, board, and laundry.

PADDINGTON GREEN CHILDREN'S HOSPITAL, London, W.—Honorary Physician to Out-patients.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney-road, Bethnal Green, E.—Surgeon-in-Charge of Ear, Nose, and Throat Department.

ROYAL FREE HOSPITAL, Gray's Inn-road, W.C.—Female Curator. Salary £50 per annum.

ROYAL LONDON OPHTHALMIC HOSPITAL, City-road, E.C.—Senior House Surgeon. Salary at rate of £100 per annum, with board and residence.

ST. BARTHOLOMEW'S HOSPITAL.—Chief Assistants and Clinical Assistants to Aural Out-patient Department.

SHEFFIELD ROYAL INFIRMARY.—Junior Resident Medical Officer. Salary £60 per annum.

SOUTH SHIELDS, INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTOE DISPENSARY.—Senior and Junior House Surgeon. Salary £100 and £90 per annum respectively, with residence, board, and washing.

SOUTHWARK UNION INFIRMARY, East Dulwich-grove, S.E.—Second Assistant Medical Officer. Also Third Assistant Medical Officer. Salary £120 per annum in each case, with board, lodging, and washing.

STAFFORD, COTON HILL LUNATIC ASYLUM.—Assistant Medical Officer. Salary £125 per annum, with residence, board, and laundry.

TOOTING, S.W., FOUNTAIN ASYLUM.—Second Assistant Medical Officer, unmarried. Salary £180 per annum, with board, lodging, and washing.

VICTORIA HOSPITAL FOR CHILDREN, Tite-street, Chelsea, S.W.—House Physician and House Surgeon for six months. Salary £40, with board, lodging, and laundry.

WEST HAM AND EASTERN GENERAL HOSPITAL, Stratford.—Junior House Surgeon. Salary at rate of £75 per annum, with board, residence, and washing.

WEST LONDON HOSPITAL, Hammersmith-road, W.—Assistant Anæsthetist.

WESTON-SUPER-MARE HOSPITAL.—House Surgeon, unmarried. Salary £100 per annum, with board and residence.

WINCHESTER, ROYAL HAMPSHIRE COUNTY HOSPITAL.—House Physician. Salary £80 per annum.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—House Surgeon for six months. Salary £80 per annum, with board, rooms, and laundry. Also Resident Medical Officer. Salary at rate of £100 per annum, with board, rooms, and laundry.

THE Chief Inspector of Factories, Home Office, London, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Act at Kelvedon, in the county of Essex; at St. Austell, in the county of Cornwall; and at Clara, in King's County.

Births, Marriages, and Deaths.

BIRTHS.

ALLEN.—On Jan. 1st, at Harley-street, London, W., to Dr. and Mrs. R. W. Allen, a daughter.

ATKINS.—On Dec. 27th, 1911, at Loughborough, Leicestershire, the wife of Frank Robert Lowth Atkins, M.R.C.S., L.R.C.P., of a daughter.

DAVIS.—On Dec. 27th, 1911, at C. M. S., Amritsar, the wife of Rev. G. Brocklesby Davis, M.D., of a son.

ELLIS.—On Dec. 28th, 1911, at Bonchurch, I.W., the wife of Francis Heygate Ellis, M.R.C.S., L.R.C.P. Lond., of Salisbury, Rhodesia, of a son.

GRAHAM.—On Dec. 26th, 1911, at "The Cottage," Porchester-road, Newbury, to S. D. Graham, M.B., and Agnes M. Graham, twin daughters.

MARRIAGES.

PINCHING—WOODWARD.—On Dec. 27th, 1911, at St. Cuthbert's, Kensington, William Guy Pinching, M.R.C.S., L.R.C.P., to Dorothy Mary, second daughter of the late Harry Woodward, Solicitor, and Mrs. Woodward.

DEATHS.

AITCHISON.—On Dec. 31st, 1911, at Drayton-terrace, South Kensington, after a short illness, Charles Umpherston Aitchison, M.D., aged 36.

WOLFF.—On Dec. 26th, 1911, at Harborne-road, Edgbaston, Birmingham, Alfred Wolff, M.R.C.S., in his 59th year.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

TRYPANOSOMIASIS IN NYASALAND.

ACCORDING to the "Diary" issued by Dr. A. H. Barclay, acting principal medical officer of the Nyasaland Protectorate (Part XV., Oct. 12th, 1911), the total number of cases of trypanosomiasis in which trypanosomes had been found was 55, of which 9 were then under treatment at Ngani Camp. There were no admissions to the camp during August and September. One case has died at the camp since the last report. The remedies tried have been salvarsan, soamin, and atoxyl, the latter alone and in combination with hydrarg. perchlor., but no case has shown any improvement under treatment, so that the patients are beginning to regard death as the result of treatment rather than of disease, and are becoming very refractory to the intramuscular injections. No arsenophenylglycin has so far been available for trial. The general conclusion seems to be that no treatment is of any avail in cases which have reached the cachectic stage, though atoxyl in conjunction with other drugs still offers some hope of ultimate success. In a paper received from Dr. H. S. Stannus, of the Nyasaland Protectorate, and Dr. Warrington Yorke, of Liverpool, on the Pathogenic Agent in a Case of Human Trypanosomiasis in Nyasaland, these gentlemen conclude that the trypanosome concerned is the T. rhodesiense, probably a new species, and that as Glossina palpalis has not been found in Nyasaland, some other insect, possibly Glossina morsitans, is the carrier, which is supported by the experimental infection of six monkeys in Tanganyika. No transmission experiments have been tried at this station. A site for the Royal Societies' Commission laboratories has been selected on Kasu Hill, and buildings are in process of erection under Captain A. E. Hamerton, D.S.O., R.A.M.C.

HOT.

To the Editor of THE LANCET.

DR. SIR,—Kindly publish what I saw in print some time ago.

"*Sure Cure for Cold and Influenza.*—½ or ¼ teaspoonful cayenne pepper in a glass hot milk drunk as hot as sufferer can bear (Personally tried and found successful with cold. Have not since I saw it had influenza to try it with) and make above public in America and elsewhere *as it is every one's business to save valuable human life at once.*"

Yours, &c.,
Dec. 26th, 1911. ALTRUIST.

MR. DENMAN ON REVOLVER CARRYING.

Mr. Denman had recently before him at Marborough-street police court the case of a foreigner described as a tailor with an address in Whitechapel, who on being arrested for an offence in Hyde Park, was found to be armed with a loaded revolver. Mr. Denman said, "Ever since I became a magistrate I have been a voice crying in the wilderness, and I hope that some day a Bill of five lines will be introduced making the carrying of firearms an offence which can be summarily dealt with. As it is the cumbersome proceeding of a solemn meeting of the London County Council has to be gone through before a prosecution can take place. ..... I hope that a private Member will introduce a Bill to the effect that if any person is found carrying a revolver he will be liable to fine or imprisonment." What Mr. Denman has cried in the wilderness THE LANCET has reiterated in print, but there is little or no chance of a private Member of Parliament, as he suggests, being able to get a Bill of such a nature through in the present circumstances of legislation. It is a matter for the Home Secretary to undertake, and the police might then be trusted to render the law effective by laying their hands upon plenty of criminals who habitually go about armed. The prosecution by the County Council referred to above is, of course, for the offence of carrying firearms without a gun licence.

INCOME-TAX DEMANDS.

To the Editor of THE LANCET.

SIR,—The collectors' demand notes which are annually thrust upon the attention of taxpayers at a time when they have so many other claims upon their pockets are now either delivered or in course of delivery.

While it may be too late to get the amount of the gross assessment reduced your readers should give the following points their careful attention and see to it:—

1. That they have been allowed the full statutory abatement by reason o their incomes not exceeding £700.

2. That in addition to the usual abatement they have been allowed off the assessment £10 for each child under 16 by reason of their income not exceeding £500.

3. That they have been allowed for life assurance premiums.

4. That in the case of incomes over £5000 they are only charged super-tax upon the amount of the income in excess of £3000.

5. That they understand what they are paying, and if they have paid too much take steps at once to obtain repayment.

Claims for repayment can now in many cases be made for three or even four years.—We are, Sir, yours faithfully,

THE TAX ADJUSTMENT (SCARFF'S) AGENCY.

171, Strand, London, W.C.

COBRA VENOM: A QUERY.

To the Editor of THE LANCET.

SIR,—We would be greatly obliged if any of your readers could tell us the name of the scientific laboratory or philanthropic society that has offered a prize or reward to the person who should discover an antidote for the "cobra" bite. A short while back a notice appeared in an English paper to the effect that a prize was offered for the discovery of such an antidote. We are, Sir, yours faithfully,

GRACE BROTHERS & Co., LTD.

144, Leadenhall-street, London, E.C., Dec. 27th, 1911.

A PORTABLE SPITTOON.

Messrs. W. Martindale, of New Cavendish-street, London, W., have placed on the market a portable spittoon of new design which has several features to commend it. The vessel is made of polished white metal, and measures 3 inches in depth and 2½ inches and 1 inch respectively across the long and short axes of the ends. The lid is kept in place by a simple screw adjustment, which forces a rubber washer against the rim of the spittoon, thus making the vessel watertight. Internally there is the usual funnel-shaped receptacle. There is nothing unsightly in the appearance of the spittoon, which when closed looks something like a rather thick cigarette case. The price is 10*s.* 6*d.*

TRAUMA AND APPENDICITIS.

Dr. H. A. Ballance (Norwich) inquires for references to monographs, contributions to journals, &c., upon the subject of trauma as a cause of appendicitis. He does not want references to text-books, and he is already aware of the contribution in the *Annals of Surgery*, 1901, Vol. XXXIII., p. 387, by Robinson, of Chicago.

WITH reference to a paragraph in THE LANCET of Dec. 9th, 1911, p. 1665, Mr. Frederick Dixon writes to say that the Christian Science Home in New York, referred to by our local correspondent, is a private enterprise for which the Christian Science Church assumes no responsibility.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

A DIARY OF CONGRESSES.

WE shall publish this diary from time to time that our readers may have under their hands the dates of the approaching scientific Congresses. It is unnecessary to issue the lists of all these functions week by week, and we propose to make only such gatherings as will occur in the immediate future the subject of regular announcement. The following Congresses, Conferences, and Exhibitions are announced for the next few months:—

Jan. 3rd–10th (University of St. Petersburg).—Second Congress of Pure and Applied Chemistry and Physics (in honour of the late Dr. I. Mendeléef).
,, 20th–27th (Hong-Kong).—Second Biennial Congress of the Far Eastern Association of Tropical Medicine.
Feb. 13th–14th (London).—Central Poor-Law Conference.
March 7th–11th (Berlin).—Thirty-third Balneological Con ress.
March 23rd–**April** 4th (London, Royal Agricultural Hall).—International Smoke Abatement Exhibition.
,, (London).—First Congress of Pure Food and Health Society of Great Britain.
April 1st–7th (Tunis).—Twenty-second Congress of French-speaking Alienists and Neurologists.
,, 8th–13th (Rome).—Seventh International Congress of Dermatology and Syphilology.
,, 8th–15th (Johannesburg).—Thirteenth South African Medical Congress.
,, 14th–20th (Rome).—Seventh International Congress on Tuberculosis.
,, 15th–18th (Wiesbaden).—Twenty-ninth German Congress for Internal Medicine.
,, (Giessen).—Congress on Study of Families, Inheritance, and Race Hygiene.
Spring (London).—Second Optical Convention.

The following journals, magazines, &c., have been received:—Sei-i-Kwai Medical Journal, Practitioners' Journal (Russian), L'Hygiène, The Child, Annales de l'Institut Pasteur, Archives de l'Institut Pasteur de Tunis, Bulletin de la Société de l'Internat des Hôpitaux de Paris, Archives de Médecine et Pharmacie Navales, New Zealand Medical Journal, Canadian Medical Association Journal, Archives of Internal Medicine, Yellow Fever Bureau Bulletin, Kala-Azar Bulletin, Journal of Nervous and Mental Diseases, Journal of Comparative Pathology and Therapeutics, British Journal of Dermatology, Journal of the Royal Sanitary Institute, Edinburgh Medical Journal, Journal of the London School of Tropical Medicine, Transvaal Medical Journal, Hospital Assistant (India), South African Medical Record, British Journal of Inebriety, Australian Medical Gazette.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 15, Cavendish-square, W. (temporary address during building of new house).

TUESDAY.

SURGICAL SECTION (Hon. Secretaries—L. A. Dunn, James Berry): at 5.30 P.M.

Debate:

On the Talma-Morison Operation, opened by Mr. Rutherford Morison (Newcastle). The following will take part in the Discussion: Mr. Sampson Handley, Mr. W. G. Spencer, Mr. Waring, Dr. Drummond, Dr. Hale-White, Dr. Rolleston, Dr. Essex Wynter, and others.

FRIDAY.

LARYNGOLOGICAL SECTION (Hon. Secretaries—W. H. Kelson, Dan McKenzie), at 11, Chandos-street, W.: at 4.30 P.M.

Cases

Will be shown by Dr. Wylie, Dr. Kelson, and others.

GENERAL MEETING OF FELLOWS at 4.45 P.M.

Election of Candidates for Fellowship.

CLINICAL SECTION (Hon. Secretaries: James Galloway, Charles H. Fagge): at 8.30 P.M.

Cases:

Dr. F. Parkes Weber: Case of Recurrent Aphasia with High Blood Pressure.

Dr. H. E. Symes-Thompson: Congenital Pulmonary Stenosis in a Woman aged 34.

And other Cases.

Paper:

Dr. H. C. Cameron: The Relative Value of Early and Delayed Operation in Pneumococcal Peritonitis.

MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish-square, W.

MONDAY.—8.30 P.M., Dr. H. Orton: The X Ray Diagnosis of Pulmonary Disease (illustrated by the epidiascope).

SOCIETY FOR THE STUDY OF INEBRIETY, Rooms of the Medical Society of London, 11, Chandos-street, Cavendish-square, W.

TUESDAY.—3.30 P.M., Council Meeting. 4 P.M., Discussion on Alcoholism and Problems of Growth and Development (opened by Mr. H. Gilford).

UNITED SERVICES MEDICAL SOCIETY, Royal Army Medical College, Grosvenor-road, S.W.

WEDNESDAY.—5 P.M., Lieut.-Col. C. H. Burtchaell, R.A.M.C.: The Army Medical Service with Lord Methuen's Force during the Advance on Kimberley in 1899, with Reference to the Present Organisation of the Medical Service in War.

HUNTERIAN SOCIETY, London Institution, Finsbury-circus, E.C.

WEDNESDAY.—8.30 P.M., Council Meeting. 9 P.M., Mr. C. A. Ballance: The Science and Art of Surgery in Certain Emergencies.

WIMBLEDON AND DISTRICT MEDICAL SOCIETY, Johnston's Rooms, 6, Broadway, Wimbledon.

FRIDAY.—9 P.M., Member's Clinical Evening.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. J. Galloway: Clinique (Skin). 5.15 P.M. Lecture:—Dr. R. F. Bashford: The Present Aspects of Some Cancer Problems (with lantern demonstration).

TUESDAY.—4 P.M., Dr. J. Taylor: Clinique (Medical). 5.15 P.M., Lecture:—Dr. J. Morrison: Some Difficulties in Labour during the Second Stage.

WEDNESDAY.—4 P.M., Mr. A. H. Tubby: Clinique (Surgical). 5.15 P.M., Lecture:—Mr. J. S. Joly: The Diagnosis and Treatment of Cancer of the Prostate.

THURSDAY.—4 P.M., Mr. F. M. Heath: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. C. O. Hawthorne: Hemianopsia.

FRIDAY.—4 P.M., Mr. K. Campbell: Clinique (Eye).

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10.30 A.M., Surgical Registrar: Demonstration of Cases in Wards. Dr. Simson: Diseases of Women. 12 noon, Dr. Bernstein: Pathological Demonstration. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. 2.30 P.M., Mr. Dunn: Diseases of the Eye. 5 P.M., Lecture:—Mr. Bidwell: Treatment of Cancer of the Colon.

TUESDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 11.30 A.M., Mr. Etherington-Smith: Demonstration of Minor Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Dr. Davis: Diseases of the Ear. (Lecture I.)

WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. 10.30 A.M., Surgical Registrar: Demonstration of Cases in Wards. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Mr. B. Harman: Diseases of the Eye. 2.30 P.M., Dr. Simson: Diseases of Women. 5 P.M., Lecture:—Mr. Ll. Williams: Principles of Treatment of Diseases of Children's Teeth.

THURSDAY.—10 A.M., Dr. Simson: Gynæcological Demonstration. 12.15 P.M., Lecture:—Dr. G. Stewart: Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. 2.30 P.M., Mr. Dunn: Diseases of the Eye. 5 P.M., Lecture:—Mr. Ll. Williams: Causes of Sepsis of the Mouth.

FRIDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Mr. Pritchard: Clinical Pathology.

SATURDAY.—10 A.M., Medical Registrar: Demonstration of Cases in Wards. Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. Mr. Bishop Harman: Diseases of the Eye. 2 P.M., Medical and Surgical Clinics. X Rays. Operations.

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

MONDAY.—2 P.M., Operations. 2.15 P.M., Mr. Turner: Surgery. 3.15 P.M., Sir Dyce Duckworth: Medicine. 4.30 P.M., Mr. R. Lake: Ear and Throat. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat.

TUESDAY.—2 P.M., Operations. 3.15 P.M., Dr. R. Wells: Medicine. 2.15 P.M., Mr. R. Carling: Surgery. 4.15 P.M., Sir M. Morris: Diseases of the Skin. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin.

WEDNESDAY.—2 P.M., Operations. 2.15 P.M., Dr. F. Taylor: Medicine. 3.30 P.M., Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye.

THURSDAY.—2 P.M., Operations. 2.15 P.M., Dr. G. Rankin: Medicine. 3.15 P.M., Sir W. Bennett: Surgery. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat.

FRIDAY.—2 P.M., Operations. 2.15 P.M., Sir J. Rose Bradford: Medicine. 3.15 P.M., Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin.

SATURDAY.—10 A.M., Radiography. 11 A.M., Dr. A. Davies: Pathological Demonstration. 2 P.M., Operations. Out-patient Demonstration:—10 A.M., Surgical and Medical. 11 A.M., Eye.

ROYAL INSTITUTION OF GREAT BRITAIN, Albemarle-street, Piccadilly, W.

TUESDAY.—3 P.M., Dr. P. C. Mitchell: The Childhood of Animals—VI., The Play of Young Animals.

ANCOATS HOSPITAL, Manchester.

THURSDAY.—4.15 P.M., Mr. W. R. Douglas: Chronic Enlargements of the Testicle. (Post-Graduate Clinic.)

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (8th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M.), St. Mark's (2.30 P.M.), Central London Throat and Ear (Minor 9 A.M., Major 2 P.M.).

TUESDAY (9th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London, (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M., Ophthalmic, 2 P.M.), Tottenham (2.30 P.M.). Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.), Royal National Orthopædic (9.30 A.M. and 4 P.M.).

WEDNESDAY (10th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's 2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 6.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.), West London (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

THURSDAY (11th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal National Orthopædic (9 A.M. and 3.30 P.M.), Royal Ear (2 P.M.), Children Gt. Ormond-street (9 A.M. and 2 P.M.), Tottenham (Gynæcological, 2.30 P.M.), West London (2.30 P.M), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

FRIDAY (12th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Royal National Orthopædic (3.30 P.M.), Soho-square (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.)., Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

SATURDAY (13th).—Royal Free (9A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 A.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M.), West London (2.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic (2 P.M.), Hospital operations are performed daily.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITOR," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention should be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

The Index and Title-page to Vol. II. of 1911 were given in THE LANCET of Dec. 30th, 1911.

VOLUMES AND CASES.

VOLUMES for the second half of the year 1911 will be ready shortly. Bound in cloth, gilt lettered, price 16*s.*, carriage extra.

Cases for binding the half-year's numbers are now ready. Cloth, gilt lettered, price 2*s.*, by post 2*s.* 3*d.*

To be obtained on application to the Manager, accompanied by remittance.

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WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, London, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

Subscribers, by sending their subscriptions direct to THE LANCET Offices, will insure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

THE COLONIAL AND FOREIGN EDITION (printed on thin paper) is published in time to catch the weekly Friday mails to all parts of the world.

The rates of subscriptions, post free from THE LANCET Offices, have been reduced, and are now as follows:—

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TO COLONIAL AND FOREIGN SUBSCRIBERS.

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SOLE AGENTS FOR AMERICA—Messrs. WILLIAM WOOD AND CO., 51, Fifth Avenue, New York, U.S.A.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Jan. 3rd, 1912.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rain fall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
Dec. 28	30·07	S.W.	0·09	56	53	41	47	47	Overcast
,, 29	30·12	S.W.	...	57	52	47	48	49	Cloudy
,, 30	30·08	S.W.	...	63	53	48	48	49	Cloudy
,, 31	30·39	S.W.	...	50	47	43	45	45	Overcast
Jan. 1	30·45	S.W.	...	53	52	44	48	48	Overcast
,, 2	30·47	W.	...	61	49	43	43	44	Fine
,, 3	30·26	S.W.	...	56	51	43	46	48	Overcast

Communications, Letters, &c., have been received from—

A.—Dr. Richard Arthur, Sydney; Messrs. Adlard and Sons, Lond.; Captain M. D. Ahern, R.A.M.C., Sheerness; Altruist; Mr. J. Astier, Amidres; Mr. E. Arnold, Lond.; Dr. H. G. Adamson, Lond.; Addenbrooke's Hospital, Cambridge, Secretary of; Ancoats Hospital, Manchester, Secretary of.

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I.—Messrs. Isaacs and Co., Lond.; Institut Séro-thérapeutique et Vaccinal Suisse, Berne; International News Co., Lond.; Messrs. Ingram and Royle, Lond.; Ingham Infirmary, South Shields, Secretary of.

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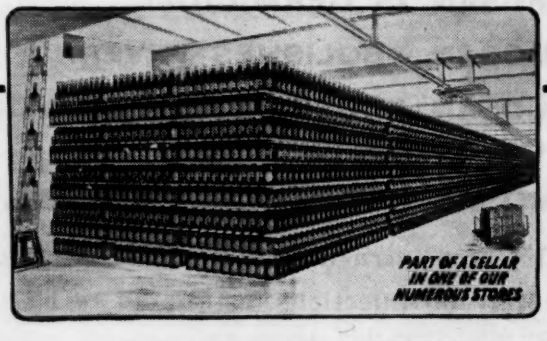

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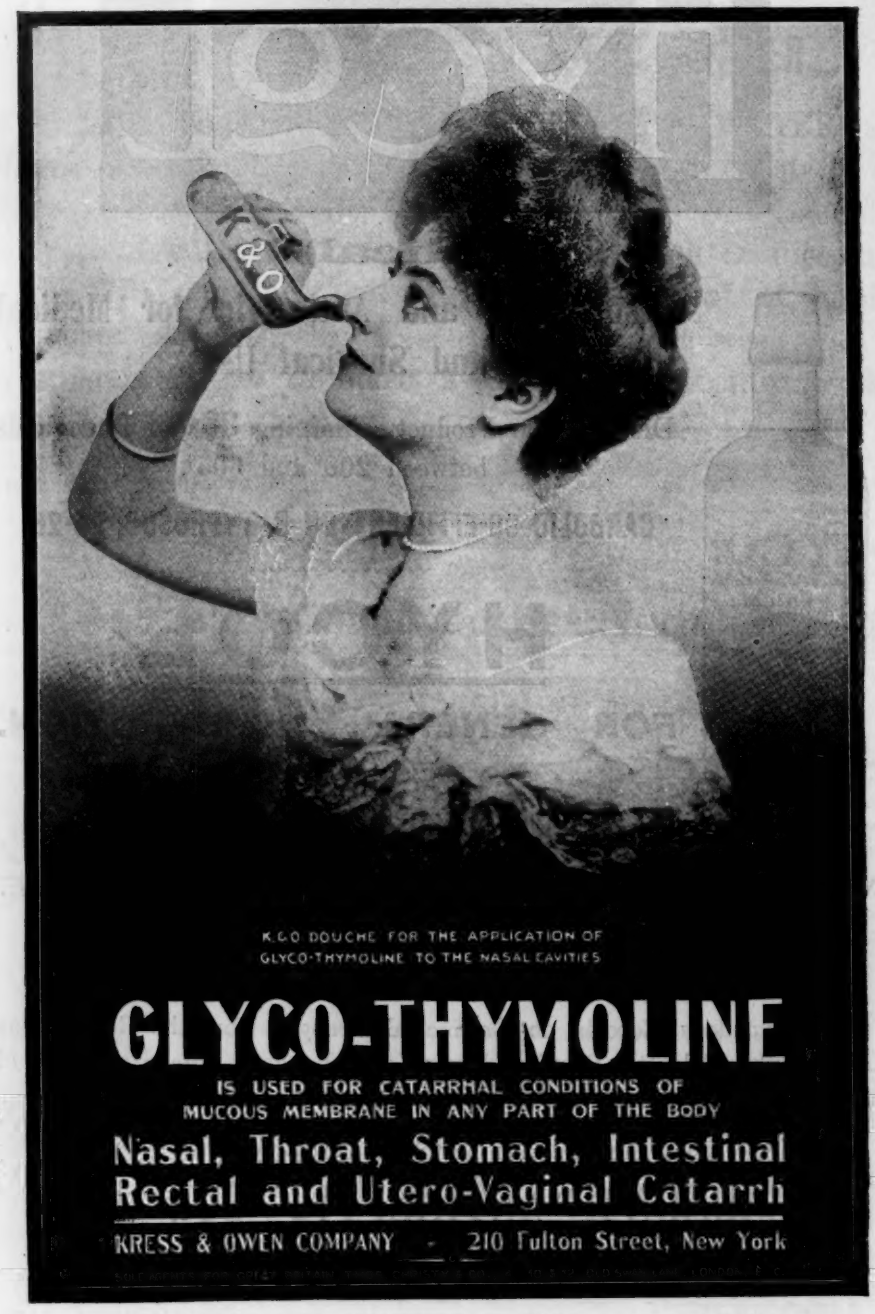

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